



Australian Government

FWP Forest and Wood Products Training Package

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CONTENTS

FWP Forest and Wood Products Training Package	27
FWP20122 Certificate II in Forest Operations	28
FWP20322 Certificate II in Timber and Wood Products Operations	36
FWP30122 Certificate III in Forest Operations	42
FWP30322 Certificate III in Timber and Wood Products Operations	53
FWP30622 Certificate III in Timber Building Products Supply	63
FWP30920 Certificate III in Timber Frame or Truss Manufacture	68
FWP31021 Certificate III in Saw Technology.....	71
FWP31121 Certificate III in Wood Machining.....	78
FWP31220 Certificate III in Timber Systems Design	83
FWP40121 Certificate IV in Forest Operations	86
FWP40222 Certificate IV in Timber and Wood Products Operations	92
FWP40420 Certificate IV in Timber Systems Design.....	98
FWP50121 Diploma of Forest Operations	101
FWPSS00068 Entry into a Saw Technician Role Skill Set.....	108
FWPSS00069 Entry into a Wood Machinist Role Skill Set	110
FWPSS00070 Process Control and Optimisation (Timber Sawmills) Skill Set.....	112
FWPSS00071 Foundational Leadership and Management (Log Yard Operations) Skill Set.....	114
FWPSS00072 Foundational Leadership and Management (Log Processing Operations) Skill Set.....	116
FWPSS00073 Foundational Leadership and Management (Timber Dry Mill Operations) Skill Set.....	118
FWPSS00074 Foundational Leadership and Management (Timber Kiln Drying Operations) Skill Set.....	120
FWPSS00075 Foundational Leadership and Management (Timber Treatment Operations) Skill Set.....	122
FWPSS00076 Foundational Leadership and Management (Engineered Wood Products Operations) Skill Set.....	124
FWPCOR2203 Follow environmental care procedures	126
Assessment Requirements for FWPCOR2203 Follow environmental care procedures ...	129
FWPCOR2205 Follow WHS policies and procedures.....	131
FPICOR2205B Follow OHS policies and procedures.....	133
Assessment Requirements for FWPCOR2205 Follow WHS policies and procedures.....	134
FWPCOR2206 Work effectively in the forest and wood products industry	136
Assessment Requirements for FWPCOR2206 Work effectively in the forest and wood products industry.....	139
FWPCOR2208 Communicate and interact effectively in the forest and wood products industry	141
Assessment Requirements for FWPCOR2208 Communicate and interact effectively in the forest and wood products industry.....	145
FWPCOR2209 Follow environmental protection procedures in forest and wood products operations	147
Assessment Requirements for FWPCOR2209 Follow environmental protection procedures in forest and wood products operations	150
FWPCOR2210 Follow workplace health and safety policies and procedures in forest and wood products operations	152
Assessment Requirements for FWPCOR2210 Follow workplace health and safety policies and procedures in forest and wood products operations	155
FWPCOR2211 Develop knowledge of the forest and wood products industry.....	157

Assessment Requirements for FWPCOR2211 Develop knowledge of the forest and wood products industry.....161

FWPCOR3205 Apply safety, health and environmental requirements in forest and wood products operations163

Assessment Requirements for FWPCOR3205 Apply safety, health and environmental requirements in forest and wood products operations166

FWPCOR4204 Monitor safety, health and environmental requirements in forest and wood products operations168

Assessment Requirements for FWPCOR4204 Monitor safety, health and environmental requirements in forest and wood products operations171

FWPCOR4205 Monitor and improve forestry operations173

Assessment Requirements for FWPCOR4205 Monitor and improve forestry operations 176

FWPCOT2206 Stack and bind material179

Assessment Requirements for FWPCOT2206 Stack and bind material182

FWPCOT2243 Tail out timber product and waste material184

Assessment Requirements for FWPCOT2243 Tail out timber product and waste material 187

FWPCOT2244 Operate and maintain a thicknesser.....190

Assessment Requirements for FWPCOT2244 Operate and maintain a thicknesser.....194

FWPCOT2246 Appearance grade hardwood sawn and milled products197

Assessment Requirements for FWPCOT2246 Appearance grade hardwood sawn and milled products200

FWPCOT2249 Visually stress grade hardwood.....202

Assessment Requirements for FWPCOT2249 Visually stress grade hardwood205

FWPCOT2250 Visually stress grade softwood.....207

Assessment Requirements for FWPCOT2250 Visually stress grade softwood210

FWPCOT2251 Visually stress grade cypress212

Assessment Requirements for FWPCOT2251 Visually stress grade cypress.....216

FWPCOT2254 Maintain chainsaws.....218

Assessment Requirements for FWPCOT2254 Maintain chainsaws221

FWPCOT2255 Store materials224

Assessment Requirements for FWPCOT2255 Store materials.....227

FWPCOT2257 Use hand-held tools229

Assessment Requirements for FWPCOT2257 Use hand-held tools.....232

FWPCOT2258 Assemble products235

Assessment Requirements for FWPCOT2258 Assemble products239

FWPCOT2259 Cut materials with a hand-held chainsaw.....242

Assessment Requirements for FWPCOT2259 Cut materials with a hand-held chainsaw 245

FWPCOT2260 Tally material.....247

Assessment Requirements for FWPCOT2260 Tally material250

FWPCOT2261 Process orders and prepare for despatch.....252

Assessment Requirements for FWPCOT2261 Process orders and prepare for despatch 255

FWPCOT2262 Cut material to shape using a saw257

Assessment Requirements for FWPCOT2262 Cut material to shape using a saw261

FWPCOT2263 Cross cut materials with a fixed saw.....264

Assessment Requirements for FWPCOT2263 Cross cut materials with a fixed saw267

FWPCOT2264 Follow quality and product care procedures in forest and wood products operations270

Assessment Requirements for FWPCOT2264 Follow quality and product care procedures in forest and wood products operations273

FWPCOT2265 Navigate in forest areas276

Assessment Requirements for FWPCOT2265 Navigate in forest areas.....279

FWPCOT2266 Operate brush cutter.....281

Assessment Requirements for FWPCOT2266 Operate brush cutter285

FWPCOT2267 Operate mobile hydraulic log splitter.....288
Assessment Requirements for FWPCOT2267 Operate mobile hydraulic log splitter.....292
FWPCOT2268 Cut timber or engineered wood product to length or dimensions294
Assessment Requirements for FWPCOT2268 Cut timber or engineered wood product to length or dimensions298
FWPCOT2269 Operate and maintain a table saw301
Assessment Requirements for FWPCOT2269 Operate and maintain a table saw.....305
FWPCOT2270 Cut wood material with pole saw for unblocking machinery components308
Assessment Requirements for FWPCOT2270 Cut wood material with pole saw for unblocking machinery components.....311
FWPCOT2271 Pack timber or wood products for despatch.....313
Assessment Requirements for FWPCOT2271 Pack timber or wood products for despatch316
FWPCOT2272 Rack timber or round poles.....318
Assessment Requirements for FWPCOT2272 Rack timber or round poles321
FWPCOT2273 Trim and cut felled trees324
Assessment Requirements for FWPCOT2273 Trim and cut felled trees.....328
FWPCOT2275 Fell trees manually (basic).....331
Assessment Requirements for FWPCOT2275 Fell trees manually (basic)335
FWPCOT3226 Assess timber for manufacturing potential.....338
Assessment Requirements for FWPCOT3226 Assess timber for manufacturing potential341
FWPCOT3234 Cut material using CNC sizing machines344
Assessment Requirements for FWPCOT3234 Cut material using CNC sizing machines 348
FWPCOT3271 Hand sharpen knives and blades for commercial and domestic cutting services351
Assessment Requirements for FWPCOT3271 Hand sharpen knives and blades for commercial and domestic cutting services.....354
FWPCOT3272 Set up and run multi-head moulder/planer to produce simple profiles...357
Assessment Requirements for FWPCOT3272 Set up and run multi-head moulder/planer to produce simple profiles361
FWPCOT3273 Set up and run multi-head moulder to produce complex profiles364
Assessment Requirements for FWPCOT3273 Set up and run multi-head moulder to produce complex profiles369
FWPCOT3274 Cut timber products using high-speed optimiser.....372
Assessment Requirements for FWPCOT3274 Cut timber products using high-speed optimiser.....376
FWPCOT3275 Set up, operate and maintain end matching machines379
Assessment Requirements for FWPCOT3275 Set up, operate and maintain end matching machines383
FWPCOT3276 Sharpen cutters using a straight knife grinder386
Assessment Requirements for FWPCOT3276 Sharpen cutters using a straight knife grinder.....390
FWPCOT3277 Sharpen cutters in head using a profile knife grinder.....393
Assessment Requirements for FWPCOT3277 Sharpen cutters in head using a profile knife grinder.....397
FWPCOT3278 Sharpen cutters in head using a straight knife grinder.....400
Assessment Requirements for FWPCOT3278 Sharpen cutters in head using a straight knife grinder.....404
FWPCOT3279 Assess and maintain saw technology tools407
Assessment Requirements for FWPCOT3279 Assess and maintain saw technology tools 411
FWPCOT3280 Replace saw blades, knives and guides414
Assessment Requirements for FWPCOT3280 Replace saw blades, knives and guides417
FWPCOT3281 Manufacture profile cutters420
Assessment Requirements for FWPCOT3281 Manufacture profile cutters423

FWPCOT3282 Assess and maintain saw blade and sawing machine performance426
Assessment Requirements for FWPCOT3282 Assess and maintain saw blade and sawing machine performance430
FWPCOT3283 Sharpen and position blades or knives in chipper, canter and reducer...433
Assessment Requirements for FWPCOT3283 Sharpen and position blades or knives in chipper, canter and reducer.....437
FWPCOT3286 Identify levelling and tensioning requirements for saw blades.....440
Assessment Requirements for FWPCOT3286 Identify levelling and tensioning requirements for saw blades443
FWPCOT3287 Operate CNC equipment for grinding, tensioning and levelling saw blades446
Assessment Requirements for FWPCOT3287 Operate CNC equipment for grinding, tensioning and levelling saw blades450
FWPCOT3289 Load and prove operating program for CNC machine.....452
Assessment Requirements for FWPCOT3289 Load and prove operating program for CNC machine.....456
FWPCOT3290 Apply knowledge of timber properties, sawmill operations and sawmilling equipment.....459
Assessment Requirements for FWPCOT3290 Apply knowledge of timber properties, sawmill operations and sawmilling equipment.....462
FWPCOT3291 Apply principles of timber and process optimisation in sawmill operations465
Assessment Requirements for FWPCOT3291 Apply principles of timber and process optimisation in sawmill operations.....468
FWPCOT3292 Calibrate and maintain scanning equipment used in sawmilling operations470
Assessment Requirements for FWPCOT3292 Calibrate and maintain scanning equipment used in sawmilling operations474
FWPCOT3293 Use scanning equipment for timber grading.....477
Assessment Requirements for FWPCOT3293 Use scanning equipment for timber grading481
FWPCOT3294 Swage and shape saw blades.....483
Assessment Requirements for FWPCOT3294 Swage and shape saw blades487
FWPCOT3295 Assess and maintain cutter performance490
Assessment Requirements for FWPCOT3295 Assess and maintain cutter performance 493
FWPCOT3297 Operate automated stacking equipment.....495
Assessment Requirements for FWPCOT3297 Operate automated stacking equipment..498
FWPCOT3298 Produce templates500
Assessment Requirements for FWPCOT3298 Produce templates.....504
FWPCOT3299 Cut timber or engineered wood product to profile506
Assessment Requirements for FWPCOT3299 Cut timber or engineered wood product to profile510
FWPCOT3301 Trim trees using a pole saw514
Assessment Requirements for FWPCOT3301 Trim trees using a pole saw.....518
FWPCOT3302 Access and provide timber and wood product information520
Assessment Requirements for FWPCOT3302 Access and provide timber and wood product information.....523
FWPCOT3303 Prepare sketches and drawings526
Assessment Requirements for FWPCOT3303 Prepare sketches and drawings529
FWPCOT3304 Take off material quantities532
Assessment Requirements for FWPCOT3304 Take off material quantities535
FWPCOT3305 Interpret and quote from manufactured timber product plans537
Assessment Requirements for FWPCOT3305 Interpret and quote from manufactured timber product plans540
FWPCOT3306 Rehabilitate tracks, quarries and landings542
Assessment Requirements for FWPCOT3306 Rehabilitate tracks, quarries and landings545
FWPCOT3307 Create drawings using computer aided design software548

Assessment Requirements for FWPCOT3307 Create drawings using computer aided design software551

FWPCOT3308 Assemble timber wall frames554

Assessment Re quirements for FWPCOT3308 Assemble timber wall frames557

FWPCOT3309 Assemble timber roof trusses560

Assessment Re quirements for FWPCOT3309 Assemble timber roof trusses564

FWPCOT3310 Prepare timber or related products to meet import/export compliance requirements.....567

Assessment Requirements for FWPCOT3310 Prepare timber or related products to meet import/export compliance requirements.....570

FWPCOT3311 Use environmental care procedures to undertake fire salvage operations572

Assessment Requirements for FWPCOT3311 Use environmental care procedures to undertake fire salvage operations576

FWPCOT3312 Implement environmentally sustainable work practices in the work area/work site578

Assessment Requirements for FWPCOT3312 Implement environmentally sustainable work practices in the work area/work site581

FWPCOT3313 Apply biodiversity protection principles.....583

Assessment Re quirements for FWPCOT3313 Apply biodiversity protection principles .587

FWPCOT3314 Comply with soil and water protection.....590

Assessment Re quirements for FWPCOT3314 Comply with soil and water protection ...593

FWPCOT3315 Transport forestry logs using trucks596

Assessment Re quirements for FWPCOT3315 Transport forestry logs using trucks601

FWPCOT3316 Transport forestry produce using trucks.....604

Assessment Re quirements for FWPCOT3316 Transport forestry produce using trucks 608

FWPCOT3317 Use chainsaw within a tree611

Assessment Re quirements for FWPCOT3317 Use chainsaw within a tree616

FWPCOT3318 Access, capture and communicate forestry field data using mobile devices620

Assessment Requirements for FWPCOT3318 Access, capture and communicate forestry field data using mobile devices.....624

FWPCOT3319 Read and interpret digital maps and forest operation plans627

Assessment Requirements for FWPCOT3319 Read and interpret digital maps and forest operation plans630

FWPCOT3320 Build and maintain timber stacks.....633

Assessment Re quirements for FWPCOT3320 Build and maintain timber stacks636

FWPCOT3321 Apply situational awareness and a safety mindset in operational forestry roles639

Assessment Requirements for FWPCOT3321 Apply situational awareness and a safety mindset in operational forestry roles.....643

FWPCOT3322 Apply quality and product care procedures in forest and wood products operations645

Assessment Requirements for FWPCOT3322 Apply quality and product care procedures in forest and wood products operations648

FWPCOT3323 Assess wood materials visually651

Assessment Re quirements for FWPCOT3323 Assess wood materials visually654

FWPCOT3324 Apply cultural heritage protection requirements in forest operations ...656

Assessment Requirements for FWPCOT3324 Apply cultural heritage protection requirements in forest operations659

FWPCOT3325 Operate four wheel drive vehicle on unsealed roads662

Assessment Requirements for FWPCOT3325 Operate four wheel drive vehicle on unsealed roads665

FWPCOT3326 Recover four wheel drive vehicle668

Assessment Re quirements for FWPCOT3326 Recover four wheel drive vehicle.....672

FWPCOT3327 Contribute to energy efficiency in the forest and wood products industry675
Assessment Requirements for FWPCOT3327 Contribute to energy efficiency in the forest and wood products industry678
FWPCOT3328 Operate four wheel drive vehicle in a towing situation.....680
Assessment Requirements for FWPCOT3328 Operate four wheel drive vehicle in a towing situation.....683
FWPCOT3329 Perform complex four wheel drive operations686
Assessment Requirements for FWPCOT3329 Perform complex four wheel drive operations690
FWPCOT3330 Apply tree jacking techniques in felling trees.....693
Assessment Requirements for FWPCOT3330 Apply tree jacking techniques in felling trees697
FWPCOT3331 Cut material using CNC sizing machines700
Assessment Requirements for FWPCOT3331 Cut material using CNC sizing machines704
FWPCOT3332 Machine timber or engineered wood products using CNC machining and processing centres.....707
Assessment Requirements for FWPCOT3332 Machine timber or engineered wood products using CNC machining and processing centres.....711
FWPCOT3333 Conduct heat plant operations714
Assessment Requirements for FWPCOT3333 Conduct heat plant operations718
FWPCOT3334 Conduct steam boiler operations721
Assessment Requirements for FWPCOT3334 Conduct steam boiler operations.....725
FWPCOT3335 Conduct operator level equipment maintenance in forest and wood products industry.....728
Assessment Requirements for FWPCOT3335 Conduct operator level equipment maintenance in forest and wood products industry.....731
FWPCOT3336 Coordinate set up and operation of timber finger jointing line.....734
Assessment Requirements for FWPCOT3336 Coordinate set up and operation of timber finger jointing line738
FWPCOT3337 Operate timber finger jointing line.....741
Assessment Requirements for FWPCOT3337 Operate timber finger jointing line745
FWPCOT3338 Identify glues and gluing systems used in production of wood products.748
Assessment Requirements for FWPCOT3338 Identify glues and gluing systems used in production of wood products751
FWPCOT3339 Grade wood product visually754
Assessment Requirements for FWPCOT3339 Grade wood product visually758
FWPCOT3340 Develop knowledge of log yard operations762
Assessment Requirements for FWPCOT3340 Develop knowledge of log yard operations765
FWPCOT3341 Coordinate and monitor wood chip stockpile768
Assessment Requirements for FWPCOT3341 Coordinate and monitor wood chip stockpile771
FWPCOT3342 Screen wood chips773
Assessment Requirements for FWPCOT3342 Screen wood chips.....776
FWPCOT3343 Test wood chips quality779
Assessment Requirements for FWPCOT3343 Test wood chips quality.....782
FWPCOT3344 Transfer wood chips.....785
Assessment Requirements for FWPCOT3344 Transfer wood chips788
FWPCOT3345 Develop knowledge of chain of custody certification requirements for forest and wood products.....790
Assessment Requirements for FWPCOT3345 Develop knowledge of chain of custody certification requirements for forest and wood products793
FWPCOT3346 Communicate effectively with general public or stakeholders concerned about forest practices.....795
Assessment Requirements for FWPCOT3346 Communicate effectively with general public or stakeholders concerned about forest practices.....798

FWPCOT3349 Assess timber against quality requirements and specifications800
Assessment Requirements for FWPCOT3349 Assess timber against quality requirements and specifications803
FWPCOT3350 Fell trees manually (intermediate).....807
Assessment Requirements for FWPCOT3350 Fell trees manually (intermediate)812
FWPCOT3351 Fell trees manually (advanced).....816
Assessment Requirements for FWPCOT3351 Fell trees manually (advanced)821
FWPCOT4209 Design timber structures825
Assessment Requirements for FWPCOT4209 Design timber structures.....828
FWPCOT4210 Provide specialised timber product solutions.....830
Assessment Requirements for FWPCOT4210 Provide specialised timber product solutions 834
FWPCOT4211 Monitor stock control procedures836
Assessment Requirements for FWPCOT4211 Monitor stock control procedures839
FWPCOT4212 Implement environmental management practices to a forestry operation site841
Assessment Requirements for FWPCOT4212 Implement environmental management practices to a forestry operation site845
FWPCOT4213 Monitor and manage product and service quality in the forest and wood products industry.....847
Assessment Requirements for FWPCOT4213 Monitor and manage product and service quality in the forest and wood products industry850
FWPCOT4214 Plan for and coordinate quarry operations852
Assessment Requirements for FWPCOT4214 Plan for and coordinate quarry operations 856
FWPCOT4215 Plan for and coordinate road construction and maintenance858
Assessment Requirements for FWPCOT4215 Plan for and coordinate road construction and maintenance862
FWPCOT4216 Plan for and coordinate construction of log landings and snig tracks864
Assessment Requirements for FWPCOT4216 Plan for and coordinate construction of log landings and snig tracks.....867
FWPCOT4217 Apply a safety mindset in forestry operations.....870
Assessment Requirements for FWPCOT4217 Apply a safety mindset in forestry operations874
FWPCOT4218 Manage business operations of a forestry contractor business.....877
Assessment Requirements for FWPCOT4218 Manage business operations of a forestry contractor business881
FWPCOT4219 Manage people practices in a forestry contractor business.....884
Assessment Requirements for FWPCOT4219 Manage people practices in a forestry contractor business889
FWPCOT4220 Plan for and coordinate log loading and haulage operations892
Assessment Requirements for FWPCOT4220 Plan for and coordinate log loading and haulage operations897
FWPCOT4221 Plan for and supervise log yard operations.....900
Assessment Requirements for FWPCOT4221 Plan for and supervise log yard operations 904
FWPCOT4222 Plan for and supervise timber treatment plant operations908
Assessment Requirements for FWPCOT4222 Plan for and supervise timber treatment plant operations912
FWPCOT4223 Assess requirements of chain of custody certification scheme for forest and wood products915
Assessment Requirements for FWPCOT4223 Assess requirements of chain of custody certification scheme for forest and wood products918
FWPCOT4224 Conduct internal audit of chain of custody certification for forest and wood products921

Assessment Requirements for FWPCOT4224 Conduct internal audit of chain of custody certification for forest and wood products925

FWPCOT4225 Apply principles of pneumatics and hydraulics to analyse potential equipment failures929

Assessment Requirements for FWPCOT4225 Apply principles of pneumatics and hydraulics to analyse potential equipment failures933

FWPCOT5210 Contribute to establishment and implementation of forest management systems.....936

Assessment Requirements for FWPCOT5210 Contribute to establishment and implementation of forest management systems940

FWPCOT5211 Implement forest management certification scheme.....943

Assessment Requirements for FWPCOT5211 Implement forest management certification scheme947

FWPCOT5212 Implement workplace sustainability practices in the forest and wood products industry.....950

Assessment Requirements for FWPCOT5212 Implement workplace sustainability practices in the forest and wood products industry954

FWPCOT5213 Contribute to and implement a community engagement plan956

Assessment Requirements for FWPCOT5213 Contribute to and implement a community engagement plan.....960

FWPCOT5214 Communicate forestry and forest science with stakeholders and the community.....963

Assessment Requirements for FWPCOT5214 Communicate forestry and forest science with stakeholders and the community.....967

FWPCOT5215 Apply innovative thinking to support forestry best practice.....970

Assessment Requirements for FWPCOT5215 Apply innovative thinking to support forestry best practice975

FWPFGM3208 Construct and maintain forest roads and tracks.....977

Assessment Requirements for FWPFGM3208 Construct and maintain forest roads and tracks981

FWPFIR2001 Follow fire prevention procedures984

Assessment Requirements for FWPFIR2001 Follow fire prevention procedures987

FWPFIR2002 Detect fire in a native forest or plantation.....989

Assessment Requirements for FWPFIR2002 Detect fire in a native forest or plantation 992

FWPFIR3001 Assess fire risk995

Assessment Requirements for FWPFIR3001 Assess fire risk.....998

FWPFIR3002 Apply communication protocols during post-bushfire vegetation clearing and clean-up operations1000

Assessment Requirements for FWPFIR3002 Apply communication protocols during post-bushfire vegetation clearing and clean-up operations.....1003

FWPFIR4001 Conduct tree hazard assessment post-fire1006

Assessment Requirements for FWPFIR4001 Conduct tree hazard assessment post-fire1009

FWPFOM5001 Contribute to and implement a forest establishment plan.....1012

Assessment Requirements for FWPFOM5001 Contribute to and implement a forest establishment plan1016

FWPFOM5002 Contribute to and implement a forest roading operational plan1019

Assessment Requirements for FWPFOM5002 Contribute to and implement a forest roading operational plan.....1022

FWPFOM5003 Contribute to and implement a forest harvesting plan.....1024

Assessment Requirements for FWPFOM5003 Contribute to and implement a forest harvesting plan1028

FWPFOM5004 Contribute to and implement a forest regeneration plan1031

Assessment Requirements for FWPFOM5004 Contribute to and implement a forest regeneration plan.....1035

FWPFOM5005 Contribute to and implement a biohazard contingency plan.....1038

Assessment Requirements for FWPFOM5005 Contribute to and implement a biohazard contingency plan.....1041

FWPFOM5006 Implement practices to maximise value from wood residues.....1044

Assessment Requirements for FWPFOM5006 Implement practices to maximise value from wood residues.....1047

FWPFOM5007 Contribute to and implement a silviculture regime for a plantation1050

Assessment Requirements for FWPFOM5007 Contribute to and implement a silviculture regime for a plantation1054

FWPFOM5008 Contribute to and implement a silviculture regime for native forest....1057

Assessment Requirements for FWPFOM5008 Contribute to and implement a silviculture regime for native forest.....1060

FWPFOM5009 Contribute to management and monitoring of forestry supply chains .1063

Assessment Requirements for FWPFOM5009 Contribute to management and monitoring of forestry supply chains1067

FWPFOM5010 Apply principles of forest science to optimise forest management practices1070

Assessment Requirements for FWPFOM5010 Apply principles of forest science to optimise forest management practices1073

FWPFOM5011 Assist with calculating costs and production targets for forestry operations1075

Assessment Requirements for FWPFOM5011 Assist with calculating costs and production targets for forestry operations1079

FWPFOM5001 Interpret and use image data in forestry planning and management ...1082

Assessment Requirements for FWPFOM5001 Interpret and use image data in forestry planning and management.....1085

FWPFOM5002 Source information on the contribution of forestry to carbon reduction strategies.....1088

Assessment Requirements for FWPFOM5002 Source information on the contribution of forestry to carbon reduction strategies.....1091

FWPFOM5003 Contribute to and implement a forest inventory program1093

Assessment Requirements for FWPFOM5003 Contribute to and implement a forest inventory program.....1097

FWPFOM5004 Contribute to the planning and conduct of forest valuation.....1099

Assessment Requirements for FWPFOM5004 Contribute to the planning and conduct of forest valuation.....1102

FWPFOM5005 Contribute to selection and application of forest growth models.....1105

Assessment Requirements for FWPFOM5005 Contribute to selection and application of forest growth models.....1108

FWPFOM5006 Analyse ecology of commercial native forests and plantations1111

Assessment Requirements for FWPFOM5006 Analyse ecology of commercial native forests and plantations1115

FWPFOM5007 Process and interpret harvester and forwarder optimisation data.....1118

Assessment Requirements for FWPFOM5007 Process and interpret harvester and forwarder optimisation data1121

FWPFOM5008 Create digital forest operational map.....1124

Assessment Requirements for FWPFOM5008 Create digital forest operational map...1127

FWPFOM5009 Create cutting instruction files for forestry harvesters.....1130

Assessment Requirements for FWPFOM5009 Create cutting instruction files for forestry harvesters1134

FWPFOM5010 Plan unmanned aerial vehicle (UAV) collection of forestry data1137

Assessment Requirements for FWPFOM5010 Plan unmanned aerial vehicle (UAV) collection of forestry data.....1140

FWPFRM5011 Quality assure forestry data acquisition by unmanned aerial vehicle (UAV).....1143
Assessment Requirements for FWPFRM5011 Quality assure forestry data acquisition by unmanned aerial vehicle (UAV).....1146
FWPHAR2201 Hook up felled trees (choker).....1149
Assessment Requirements for FWPHAR2201 Hook up felled trees (choker).....1152
FWPHAR2202 Perform landing duties (chaser).....1154
Assessment Requirements for FWPHAR2202 Perform landing duties (chaser).....1157
FWPHAR2208 Operate a mobile chipper/mulcher.....1159
Assessment Requirements for FWPHAR2208 Operate a mobile chipper/mulcher1163
FWPHAR2209 Trim and cut harvested trees1165
Assessment Requirements for FWPHAR2209 Trim and cut harvested trees1169
FWPHAR2210 Operate a forest machine simulator in a virtual environment.....1172
Assessment Requirements for FWPHAR2210 Operate a forest machine simulator in a virtual environment.....1175
FWPHAR3202 Monitor log recovery (rigging slinger).....1177
Assessment Requirements for FWPHAR3202 Monitor log recovery (rigging slinger)..1181
FWPHAR3203 Operate integrated or split flail and wood chipper with crane1183
Assessment Requirements for FWPHAR3203 Operate integrated or split flail and wood chipper with crane1187
FWPHAR3204 Operate split flail and wood chipper fed by mobile machine1190
Assessment Requirements for FWPHAR3204 Operate split flail and wood chipper fed by mobile machine1194
FWPHAR3205 Harvest trees manually (intermediate).....1197
Assessment Requirements for FWPHAR3205 Harvest trees manually (intermediate)..1202
FWPHAR3209 Harvest trees manually (advanced).....1205
Assessment Requirements for FWPHAR3209 Harvest trees manually (advanced).....1210
FWPHAR3212 Operate yarder1213
Assessment Requirements for FWPHAR3212 Operate yarder.....1218
FWPHAR3222 Use on-board computer systems for forwarder1221
Assessment Requirements for FWPHAR3222 Use on-board computer systems for forwarder.....1225
FWPHAR3232 Operate harvesting machine with winch-assist system.....1227
Assessment Requirements for FWPHAR3232 Operate harvesting machine with winch-assist system.....1231
FWPHAR3234 Conduct mechanical processor operations1234
Assessment Requirements for FWPHAR3234 Conduct mechanical processor operations 1239
FWPHAR3235 Conduct mechanically assisted tree falling operations.....1242
Assessment Requirements for FWPHAR3235 Conduct mechanically assisted tree falling operations1246
FWPHAR4206 Implement environmental management practices in timber harvesting operations1249
Assessment Requirements for FWPHAR4206 Implement environmental management practices in timber harvesting operations1252
FWPHAR4207 Conduct a wood volume and yield assessment.....1255
Assessment Requirements for FWPHAR4207 Conduct a wood volume and yield assessment.....1258
FWPHAR4208 Plan for and coordinate fire salvage operations1260
Assessment Requirements for FWPHAR4208 Plan for and coordinate fire salvage operations1264
FWPHAR4209 Plan for and coordinate forest harvesting operations.....1267
Assessment Requirements for FWPHAR4209 Plan for and coordinate forest harvesting operations1271

FWPHAR4210 Plan for and coordinate log recovery (hook tender)1273
Assessment Requirements for FWPHAR4210 Plan for and coordinate log recovery (hook tender)1278
FWPNSY2001 Collect tree seeds.....1281
Assessment Requirements for FWPNSY2001 Collect tree seeds1284
FWPNSY2002 Cut, sort and set cuttings1287
Assessment Requirements for FWPNSY2002 Cut, sort and set cuttings1290
FWPNSY2003 Follow quality procedures in forest nursery production1292
Assessment Requirements for FWPNSY2003 Follow quality procedures in forest nursery production1295
FWPNSY2004 Prick out and transplant tree seedlings1298
Assessment Requirements for FWPNSY2004 Prick out and transplant tree seedlings..1301
FWPNSY2005 Apply tree seed treatment.....1303
Assessment Requirements for FWPNSY2005 Apply tree seed treatment.....1307
FWPNSY3001 Graft nursery stock for planting in seed orchard1310
Assessment Requirements for FWPNSY3001 Graft nursery stock for planting in seed orchard1313
FWPNSY3002 Extract, clean, store and despatch tree seeds.....1315
Assessment Requirements for FWPNSY3002 Extract, clean, store and despatch tree seeds 1319
FWPNSY3003 Apply knowledge of tree stock growing in a forest nursery.....1322
Assessment Requirements for FWPNSY3003 Apply knowledge of tree stock growing in a forest nursery.....1325
FWPNSY3004 Identify, evaluate and mark quality seed trees1327
Assessment Requirements for FWPNSY3004 Identify, evaluate and mark quality seed trees.....1330
FWPNSY3005 Maintain seed orchard1332
Assessment Requirements for FWPNSY3005 Maintain seed orchard.....1335
FWPNSY3006 Manage mother plants1338
Assessment Requirements for FWPNSY3006 Manage mother plants1341
FWPNSY3007 Operate automated topping system as part of tree production nursery operations1344
Assessment Requirements for FWPNSY3007 Operate automated topping system as part of tree production nursery operations.....1348
FWPNSY3008 Operate automated seed sowing line for containerised forest seedling production1351
Assessment Requirements for FWPNSY3008 Operate automated seed sowing line for containerised forest seedling production.....1355
FWPSAW2212 Assemble materials using nail plates1358
Assessment Requirements for FWPSAW2212 Assemble materials using nail plates.....1361
FWPSAW2213 De-stack timber drying racks.....1364
Assessment Requirements for FWPSAW2213 De-stack timber drying racks1367
FWPSAW2214 Sort timber boards manually1370
Assessment Requirements for FWPSAW2214 Sort timber boards manually.....1373
FWPSAW3232 Sharpen band saw blades.....1376
Assessment Requirements for FWPSAW3232 Sharpen band saw blades1380
FWPSAW3233 Sharpen circular saw blades1383
Assessment Requirements for FWPSAW3233 Sharpen circular saw blades1387
FWPSAW3234 File and set saw blades for hand saws and circular saws1390
Assessment Requirements for FWPSAW3234 File and set saw blades for hand saws and circular saws.....1394
FWPSAW3235 Recondition saw guides1397
Assessment Requirements for FWPSAW3235 Recondition saw guides.....1400
FWPSAW3236 Sharpen tipped circular saw blades1403

Assessment Requirements for FWPSAW3236 Sharpen tipped circular saw blades1406
FWPSAW3237 Level and tension circular saw blades1409
Assessment Requirements for FWPSAW3237 Level and tension circular saw blades...1413
FWPSAW3238 Replace Stellite tips1416
Assessment Requirements for FWPSAW3238 Replace Stellite tips1420
FWPSAW3239 Assess and maintain wide band saw blades1423
Assessment Requirements for FWPSAW3239 Assess and maintain wide band saw blades 1427
FWPSAW3240 Assess and maintain band saw wheels1430
Assessment Requirements for FWPSAW3240 Assess and maintain band saw wheels ..1434
FWPSAW3242 Treat timber1437
Assessment Requirements for FWPSAW3242 Treat timber1441
FWPSAW3244 Align sawing production systems1445
Assessment Requirements for FWPSAW3244 Align sawing production systems.....1449
FWPSAW3245 Join band saw blades1452
Assessment Requirements for FWPSAW3245 Join band saw blades1455
FWPSAW3247 Replace tungsten tips1458
Assessment Requirements for FWPSAW3247 Replace tungsten tips1461
FWPSAW3251 Apply principles of blade design to sawing procedures1464
Assessment Requirements for FWPSAW3251 Apply principles of blade design to sawing
procedures1467
FWPSAW3252 Assemble, operate and dismantle a portable sawmill1470
Assessment Requirements for FWPSAW3252 Assemble, operate and dismantle a portable
sawmill.....1474
FWPSAW3253 Re-saw green timber1477
Assessment Requirements for FWPSAW3253 Re-saw green timber.....1481
FWPSAW3254 Control and monitor automated green mill saw line1484
Assessment Requirements for FWPSAW3254 Control and monitor automated green mill
saw line1487
FWPSAW3255 Operate conventional log breakdown saw line1490
Assessment Requirements for FWPSAW3255 Operate conventional log breakdown saw
line1494
FWPSAW3256 Select and saw logs in multi-species operations1497
Assessment Requirements for FWPSAW3256 Select and saw logs in multi-species
operations1501
FWPSAW3257 Operate timber drying kiln.....1504
Assessment Requirements for FWPSAW3257 Operate timber drying kiln.....1508
FWPSAW4206 Monitor output timber for optimum volume and value recovery1511
Assessment Requirements for FWPSAW4206 Monitor output timber for optimum volume
and value recovery.....1514
FWPSAW4207 Optimise timber production for volume and value recovery1517
Assessment Requirements for FWPSAW4207 Optimise timber production for volume and
value recovery.....1521
FWPSAW4208 Plan for and coordinate timber kiln drying operations1523
Assessment Requirements for FWPSAW4208 Plan for and coordinate timber kiln drying
operations1527
FWPSAW4209 Plan for and supervise log processing operations1530
Assessment Requirements for FWPSAW4209 Plan for and supervise log processing
operations1534
FWPSAW4210 Plan for and supervise timber dry mill operations1537
Assessment Requirements for FWPSAW4210 Plan for and supervise timber dry mill
operations1541
FWPSIL2001 Select and mark trees for tending operations1544
Assessment Requirements for FWPSIL2001 Select and mark trees for tending operations 1547

FWPSIL2002 Plant trees by hand.....1550
Assessment Requirements for FWPSIL2002 Plant trees by hand1553
FWPSIL2003 Prune trees.....1556
Assessment Requirements for FWPSIL2003 Prune trees.....1559
FWPSIL2004 Collect forest data or samples for assessment and analysis1562
Assessment Requirements for FWPSIL2004 Collect forest data or samples for assessment and analysis1565
FWPSIL2005 Measure trees1568
Assessment Requirements for FWPSIL2005 Measure trees.....1571
FWPSIL3001 Apply sustainable silviculture treatments.....1574
Assessment Requirements for FWPSIL3001 Apply sustainable silviculture treatments 1578
FWPSIL3002 Plant trees mechanically.....1581
Assessment Requirements for FWPSIL3002 Plant trees mechanically1584
FWPSIL3003 Use mechanised equipment for forestry site preparation.....1587
Assessment Requirements for FWPSIL3003 Use mechanised equipment for forestry site preparation.....1591
FWPSIL4001 Plan for and coordinate forest site preparation operations.....1595
Assessment Requirements for FWPSIL4001 Plan for and coordinate forest site preparation operations1598
FWPSIL4002 Plan for and coordinate thinning operations in a native forest or plantation1601
Assessment Requirements for FWPSIL4002 Plan for and coordinate thinning operations in a native forest or plantation.....1604
FWPSIL4003 Plan for and coordinate stem improvement operations1607
Assessment Requirements for FWPSIL4003 Plan for and coordinate stem improvement operations1610
FWPSIL4004 Plan for and coordinate forest establishment operations1613
Assessment Requirements for FWPSIL4004 Plan for and coordinate forest establishment operations1616
FWPSIL4005 Plan for and coordinate a stand health and nutrition program1619
Assessment Requirements for FWPSIL4005 Plan for and coordinate a stand health and nutrition program.....1622
FWPSIL4006 Plan for and coordinate a pests and diseases assessment.....1625
Assessment Requirements for FWPSIL4006 Plan for and coordinate a pests and diseases assessment.....1628
FWPSIL4007 Plan for and coordinate a regeneration rate assessment.....1630
Assessment Requirements for FWPSIL4007 Plan for and coordinate a regeneration rate assessment.....1633
FWPSIL4008 Plan for and coordinate a forest site assessment.....1635
Assessment Requirements for FWPSIL4008 Plan for and coordinate a forest site assessment.....1638
FWPSIL4009 Plan for and coordinate tending operations in a native forest or plantation1640
Assessment Requirements for FWPSIL4009 Plan for and coordinate tending operations in a native forest or plantation.....1644
FWPTMM2204 Machine material.....1647
Assessment Requirements for FWPTMM2204 Machine material1651
FWPTMM2205 Cut material to length and angles1654
Assessment Requirements for FWPTMM2205 Cut material to length and angles.....1657
FWPTMM3211 Manufacture using joinery machines.....1660
Assessment Requirements for FWPTMM3211 Manufacture using joinery machines...1664
FWPTMM3212 Estimate and cost job.....1667
Assessment Requirements for FWPTMM3212 Estimate and cost job1670
FWPTMM3213 Read and interpret timber truss or wall frame fabrication plans1673

Assessment Requirements for FWPTMM3213 Read and interpret timber truss or wall frame fabrication plans.....1676

FWPTMM3214 Assemble timber floor trusses.....1678

Assessment Re quirements for FWPTMM3214 Assemble timber floor trusses.....1682

FWPTMM3215 Work effectively in the timber systems design industry1685

Assessment Requirements for FWPTMM3215 Work effectively in the timber systems design industry1688

FWPTMM3216 Plane and sand engineered wood product.....1691

Assessment Re quirements for FWPTMM3216 Plane and sand engineered wood product1694

FWPTMM3217 Develop knowledge of plywood or laminated veneer lumber production1697

Assessment Requirements for FWPTMM3217 Develop knowledge of plywood or laminated veneer lumber production.....1700

FWPTMM3218 Develop knowledge of veneer preparation in plywood or laminated veneer lumber production.....1703

Assessment Requirements for FWPTMM3218 Develop knowledge of veneer preparation in plywood or laminated veneer lumber production.....1707

FWPTMM3219 Develop knowledge of reconstituted wood panel production.....1712

Assessment Requirements for FWPTMM3219 Develop knowledge of reconstituted wood panel production.....1715

FWPTMM3220 Develop knowledge of glue laminated timber or cross laminated timber production1718

Assessment Requirements for FWPTMM3220 Develop knowledge of glue laminated timber or cross laminated timber production1721

FWPTMM4209 Interpret details of timber roof trusses to inform design of plans and production documents1724

Assessment Requirements for FWPTMM4209 Interpret details of timber roof trusses to inform design of plans and production documents.....1727

FWPTMM4210 Interpret details of timber floor systems to inform design of plans and production documents1730

Assessment Requirements for FWPTMM4210 Interpret details of timber floor systems to inform design of plans and production documents.....1733

FWPTMM4211 Interpret details of timber wall frames to inform design of plans and production documents1736

Assessment Requirements for FWPTMM4211 Interpret details of timber wall frames to inform design of plans and production documents.....1739

FWPTMM4212 Calculate production costs1741

Assessment Re quirements for FWPTMM4212 Calculate production costs.....1744

FWPTMM4213 Test finger jointed timber1746

Assessment Re quirements for FWPTMM4213 Test finger jointed timber.....1749

FWPTMM4214 Test laminated wood product.....1752

Assessment Re quirements for FWPTMM4214 Test laminated wood product1755

FWPTMM4215 Plan for and coordinate timber product assembly1758

Assessment Requirements for FWPTMM4215 Plan for and coordinate timber product assembly1761

FWPTMM4216 Plan for and supervise engineered wood product operations1764

Assessment Requirements for FWPTMM4216 Plan for and supervise engineered wood product operations.....1768

AHCARB212 Operate and maintain stump grinding machines.....1771

Assessment Requirements for AHCARB212 Operate and maintain stump grinding machines.....1775

AHCARB318 Undertake aerial rescue.....1778

Assessment Re quirements for AHCARB318 Undertake aerial rescue1782

AHCARB319 Use arborist climbing techniques.....1786

Assessment Requirements for AHCARB319 Use arborist climbing techniques	1790
AHCBIO204 Follow site biosecurity procedures.....	1796
Assessment Requirements for AHCBIO204 Follow site biosecurity procedures	1800
AHCBIO303 Apply biosecurity measures.....	1803
Assessment Requirements for AHCBIO303 Apply biosecurity measures	1806
AHCCHM101 Follow basic chemical safety rules.....	1809
Assessment Requirements for AHCCHM101 Follow basic chemical safety rules	1812
AHCCHM201 Apply chemicals under supervision.....	1814
Assessment Requirements for AHCCHM201 Apply chemicals under supervision.....	1818
AHCCHM304 Transport and store chemicals	1821
Assessment Requirements for AHCCHM304 Transport and store chemicals.....	1825
AHCCHM307 Prepare and apply chemicals to control pest, weeds and diseases.....	1828
Assessment Requirements for AHCCHM307 Prepare and apply chemicals to control pest, weeds and diseases	1832
AHCCHM404 Develop procedures to minimise risks in the use of chemicals	1836
Assessment Requirements for AHCCHM404 Develop procedures to minimise risks in the use of chemicals	1840
AHCCHM405 Plan and implement a chemical use program.....	1843
Assessment Requirements for AHCCHM405 Plan and implement a chemical use program	1847
AHCECR502 Conduct biological surveys	1850
Assessment Requirements for AHCECR502 Conduct biological surveys	1853
AHCINF206 Install, maintain and repair farm fencing.....	1856
Assessment Requirements for AHCINF206 Install, maintain and repair farm fencing.	1859
AHCINF307 Plan and construct conventional fencing.....	1861
Assessment Requirements for AHCINF307 Plan and construct conventional fencing ..	1864
AHCIRG328 Operate irrigation controller and sensor technology.....	1866
Assessment Requirements for AHCIRG328 Operate irrigation controller and sensor technology.....	1869
AHCIRG346 Operate pressurised irrigation systems	1871
Assessment Requirements for AHCIRG346 Operate pressurised irrigation systems	1874
AHCLSC318 Erect timber structures and features	1877
Assessment Requirements for AHCLSC318 Erect timber structures and features	1880
AHCMOM202 Operate tractors.....	1882
Assessment Requirements for AHCMOM202 Operate tractors	1886
AHCMOM207 Conduct front-end loader operations	1888
Assessment Requirements for AHCMOM207 Conduct front-end loader operations	1892
AHCMOM208 Conduct excavator operations.....	1894
Assessment Requirements for AHCMOM208 Conduct excavator operations.....	1898
AHCMOM209 Conduct dozer operations	1900
Assessment Requirements for AHCMOM209 Conduct dozer operations	1904
AHCMOM216 Operate side by side utility vehicles.....	1906
Assessment Requirements for AHCMOM216 Operate side by side utility vehicles.....	1910
AHCMOM301 Coordinate machinery and equipment maintenance and repair.....	1913
Assessment Requirements for AHCMOM301 Coordinate machinery and equipment maintenance and repair	1917
AHCMOM306 Ground spread fertiliser and soil ameliorant.....	1919
Assessment Requirements for AHCMOM306 Ground spread fertiliser and soil ameliorant	1924
AHCMOM402 Supervise maintenance of property, machinery and equipment.....	1927
Assessment Requirements for AHCMOM402 Supervise maintenance of property, machinery and equipment	1931
AHCNRM507 Manipulate and analyse data within geographic information systems ...	1933
Assessment Requirements for AHCNRM507 Manipulate and analyse data within geographic information systems.....	1935

AHCNSY207 Undertake propagation activities.....1937
Assessment Requirements for AHCNSY207 Undertake propagation activities.....1940
AHCNSY314 Operate fertigation equipment.....1942
Assessment Requirements for AHCNSY314 Operate fertigation equipment1945
AHCOCM201 Maintain cultural sites1948
Assessment Requirements for AHCOCM201 Maintain cultural sites1951
AHCOCM401 Protect places of cultural significance1953
Assessment Requirements for AHCOCM401 Protect places of cultural significance1956
AHCPMG201 Treat weeds1959
Assessment Requirements for AHCPMG201 Treat weeds.....1962
AHCPMG202 Treat plant pests, diseases and disorders1965
Assessment Requirements for AHCPMG202 Treat plant pests, diseases and disorders1968
AHCPMG301 Control weeds.....1971
Assessment Requirements for AHCPMG301 Control weeds1975
AHCPMG302 Control plant pests, diseases and disorders.....1978
Assessment Requirements for AHCPMG302 Control plant pests, diseases and disorders1981
AHCPMG304 Use firearms to humanely destroy animals1984
Assessment Requirements for AHCPMG304 Use firearms to humanely destroy animals1988
AHCPMG309 Apply pest animal control techniques1991
Assessment Requirements for AHCPMG309 Apply pest animal control techniques.....1995
AHCSAW203 Conduct erosion and sediment control activities1998
Assessment Requirements for AHCSAW203 Conduct erosion and sediment control
activities.....2001
AHCSAW304 Implement erosion and sediment control measures2003
Assessment Requirements for AHCSAW304 Implement erosion and sediment control
measures2006
AHCWRK215 Collect and record production data2008
Assessment Requirements for AHCWRK215 Collect and record production data.....2011
AHCWRK314 Monitor weather conditions2013
Assessment Requirements for AHCWRK314 Monitor weather conditions.....2016
AHCWRK323 Operate in isolated and remote situations2018
Assessment Requirements for AHCWRK323 Operate in isolated and remote situations2021
AHCWRK404 Implement quality assurance procedures.....2024
Assessment Requirements for AHCWRK404 Implement quality assurance procedures2027
AHCWRK508 Interpret legislation2029
Assessment Requirements for AHCWRK508 Interpret legislation2032
AHCWRK509 Provide specialist advice to clients2034
Assessment Requirements for AHCWRK509 Provide specialist advice to clients2036
AHCWRK513 Write and present reports2038
Assessment Requirements for AHCWRK513 Write and present reports2041
AVIY0028 Operate remotely piloted aircraft in excluded category sub-2 kg operations2043
Assessment Requirements for AVIY0028 Operate remotely piloted aircraft in excluded
category sub-2 kg operations2047
BSBFIN501 Manage budgets and financial plans2050
Assessment Requirements for BSBFIN501 Manage budgets and financial plans2053
BSBHRM413 Support the learning and development of teams and individuals.....2055
Assessment Requirements for BSBHRM413 Support the learning and development of
teams and individuals2058
BSBINS201 Process and maintain workplace information2060
Assessment Requirements for BSBINS201 Process and maintain workplace information2062
BSBINS302 Organise workplace information.....2064
Assessment Requirements for BSBINS302 Organise workplace information2067
BSBLDR301 Support effective workplace relationships2069

Assessment Requirements for BSBLDR301 Support effective workplace relationships 2072
BSBLDR413 Lead effective workplace relationships2074
Assessment Requirements for BSBLDR413 Lead effective workplace relationships.....2077
BSBLDR414 Lead team effectiveness2079
Assessment Requirements for BSBLDR414 Lead team effectiveness.....2082
BSBOPS202 Engage with customers.....2084
Assessment Requirements for BSBOPS202 Engage with customers2087
BSBOPS304 Deliver and monitor a service to customers2089
Assessment Requirements for BSBOPS304 Deliver and monitor a service to customers 2092
BSBOPS305 Process customer complaints.....2094
Assessment Requirements for BSBOPS305 Process customer complaints2097
BSBOPS402 Coordinate business operational plans2099
Assessment Requirements for BSBOPS402 Coordinate business operational plans.....2102
BSBOPS403 Apply business risk management processes.....2104
Assessment Requirements for BSBOPS403 Apply business risk management processes2107
BSBOPS404 Implement customer service strategies.....2109
Assessment Requirements for BSBOPS404 Implement customer service strategies.....2112
BSBPEF202 Plan and apply time management.....2114
Assessment Requirements for BSBPEF202 Plan and apply time management2117
BSBPEF301 Organise personal work priorities2119
Assessment Requirements for BSBPEF301 Organise personal work priorities.....2122
BSBPEF402 Develop personal work priorities.....2124
Assessment Requirements for BSBPEF402 Develop personal work priorities2127
BSBPMG427 Apply project procurement procedures2129
Assessment Requirements for BSBPMG427 Apply project procurement procedures...2132
BSBPMG634 Facilitate stakeholder engagement.....2134
Assessment Requirements for BSBPMG634 Facilitate stakeholder engagement2137
BSBSTR402 Implement continuous improvement.....2139
Assessment Requirements for BSBSTR402 Implement continuous improvement2142
BSBTEC201 Use business software applications.....2144
Assessment Requirements for BSBTEC201 Use business software applications2146
BSBTWK201 Work effectively with others.....2148
Assessment Requirements for BSBTWK201 Work effectively with others2151
BSBWH5211 Contribute to the health and safety of self and others2153
Assessment Requirements for BSBWH5211 Contribute to the health and safety of self and others2156
BSBWH515 Lead initial response to and investigate WHS incidents2158
Assessment Requirements for BSBWH515 Lead initial response to and investigate WHS incidents.....2163
BSBXCM401 Apply communication strategies in the workplace.....2166
Assessment Requirements for BSBXCM401 Apply communication strategies in the workplace2169
BSBXTW301 Work in a team.....2171
Assessment Requirements for BSBXTW301 Work in a team2174
BSBXTW401 Lead and facilitate a team.....2176
Assessment Requirements for BSBXTW401 Lead and facilitate a team.....2179
CPCBC4001 Apply building codes and standards to the construction process for Class 1 and 10 buildings.....2181
Assessment Requirements for CPCBC4001 Apply building codes and standards to the construction process for Class 1 and 10 buildings2185
CPCBC4024 Resolve business disputes2188
Assessment Requirements for CPCBC4024 Resolve business disputes.....2191
CPCCOM1015 Carry out measurements and calculations2193

Assessment Requirements for CPCCOM1015 Carry out measurements and calculations 2195

CPPCMN4008 Read plans, drawings and specifications for residential buildings2197

Assessment Requirements for CPPCMN4008 Read plans, drawings and specifications for residential buildings.....2202

FWPCOT2242 Segregate and sort logs.....2204

Assessment Requirements for FWPCOT2242 Segregate and sort logs2208

FWPCOT3202 Navigate in remote or trackless areas.....2211

Assessment Requirements for FWPCOT3202 Navigate in remote or trackless areas ...2214

FWPCOT3219 Produce standard truss or frame plans and details using computers2217

Assessment Requirements for FWPCOT3219 Produce standard truss or frame plans and details using computers.....2221

FWPCOT3270 Grade and mark logs.....2223

Assessment Requirements for FWPCOT3270 Grade and mark logs2227

FWPCOT4201 Produce complex truss and frame plans and details using computers ..2230

Assessment Requirements for FWPCOT4201 Produce complex truss and frame plans and details using computers.....2233

FWPCOT6210 Develop engineered wood products to meet energy efficient building design needs.....2236

Assessment Requirements for FWPCOT6210 Develop engineered wood products to meet energy efficient building design needs.....2240

FWPHAR3223 Use on-board computer systems for single grip harvester.....2243

Assessment Requirements for FWPHAR3223 Use on-board computer systems for single grip harvester.....2247

FWPHAR3224 Operate crawler tractor.....2250

Assessment Requirements for FWPHAR3224 Operate crawler tractor.....2254

FWPHAR3225 Operate excavator with log grapple2257

Assessment Requirements for FWPHAR3225 Operate excavator with log grapple2262

FWPHAR3226 Operate feller buncher.....2265

Assessment Requirements for FWPHAR3226 Operate feller buncher.....2270

FWPHAR3227 Operate forwarder.....2274

Assessment Requirements for FWPHAR3227 Operate forwarder.....2279

FWPHAR3228 Operate loader.....2282

Assessment Requirements for FWPHAR3228 Operate loader.....2287

FWPHAR3229 Operate single grip harvester.....2290

Assessment Requirements for FWPHAR3229 Operate single grip harvester2295

FWPHAR3230 Operate skidder2299

Assessment Requirements for FWPHAR3230 Operate skidder.....2303

FWPTMM3208 Apply critical workplace processes in the manufacture of prefabricated timber building systems2306

Assessment Requirements for FWPTMM3208 Apply critical workplace processes in the manufacture of prefabricated timber building systems.....2310

FWPTMM3209 Install prefabricated timber building systems on-site.....2313

Assessment Requirements for FWPTMM3209 Install prefabricated timber building systems on-site2317

FWPTMM5202 Develop, trial and evaluate prototypes.....2321

Assessment Requirements for FWPTMM5202 Develop, trial and evaluate prototypes.....2325

FWPTMM5209 Determine prefabricated timber building systems designs for compliance, manufacture and installation.....2328

Assessment Requirements for FWPTMM5209 Determine prefabricated timber building systems designs for compliance, manufacture and installation.....2333

FWPTMM5210 Verify compliance and conformance of prefabricated timber building systems during manufacture2337

Assessment Requirements for FWPTMM5210 Verify compliance and conformance of prefabricated timber building systems during manufacture2341

CPPSSI4038 Prepare and present GIS data2344

Assessment Re quire ments for CPPSSI4038 Prepare and present GIS data.....2347

CPPWMT3002 Conduct waste resource recovery2349

Assessment Re quire ments for CPPWMT3002 Conduct waste resource recovery2352

CPPWMT4003 Implement waste management plans2354

Assessment Re quire ments for CPPWMT4003 Implement waste management plans2357

CPPWMT4010 Assess and advise on waste avoidance options2359

Assessment Re quire ments for CPPWMT4010 Assess and advise on waste avoidance options2362

FBPOPR2074 Carry out manual handling tasks2364

Assessment Re quire ments for FBPOPR2074 Carry out manual handling tasks2367

FBPVIT3004 Monitor and maintain nursery plants2370

Assessment Re quire ments for FBPVIT3004 Monitor and maintain nursery plants2373

FSKLRG011 Use routine strategies for work-related learning2377

Assessment Re quire ments for FSKLRG011 Use routine strategies for work-related learning.....2379

FSKOCM007 Interact effectively with others at work.....2381

Assessment Re quire ments for FSKOCM007 Interact effectively with others at work ..2383

FSKRDG007 Read and respond to simple workplace information2385

Assessment Re quire ments for FSKRDG007 Read and respond to simple workplace information.....2387

FSKWTG006 Write simple workplace information.....2389

Assessment Re quire ments for FSKWTG006 Write simple workplace information2391

HLTAID009 Provide cardiopulmonary resuscitation.....2393

Assessment Re quire ments for HLTAID009 Provide cardiopulmonary resuscitation....2395

HLTAID011 Provide First Aid.....2398

Assessment Re quire ments for HLTAID011 Provide First Aid.....2400

HLTAID013 Provide First Aid in remote or isolated site.....2404

Assessment Re quire ments for HLTAID013 Provide First Aid in remote or isolated site 2407

HLTAID014 Provide Advanced First Aid.....2412

Assessment Re quire ments for HLTAID014 Provide Advanced First Aid2415

HLTAID016 Manage first aid services and resources.....2420

Assessment Re quire ments for HLTAID016 Manage first aid services and resources ...2422

MEM05006 Perform brazing and/or silver soldering.....2424

Assessment Re quire ments for MEM05006 Perform brazing and/or silver soldering2428

MEM05049 Perform routine gas tungsten arc welding.....2430

Assessment Re quire ments for MEM05049 Perform routine gas tungsten arc welding .2434

MEM05050 Perform routine gas metal arc welding.....2436

Assessment Re quire ments for MEM05050 Perform routine gas metal arc welding2440

MEM09002 Interpret technical drawing.....2442

Assessment Re quire ments for MEM09002 Interpret technical drawing2445

MEM11011 Undertake manual handling2447

Assessment Re quire ments for MEM11011 Undertake manual handling2450

MEM12023 Perform engineering measurements2452

Assessment Re quire ments for MEM12023 Perform engineering measurements.....2456

MEM12024 Perform computations.....2458

Assessment Re quire ments for MEM12024 Perform computations2462

MEM13003 Work safely with industrial chemicals and materials2464

Assessment Re quire ments for MEM13003 Work safely with industrial chemicals and materials.....2468

MEM13015 Work safely and effectively in manufacturing and engineering.....2470

Assessment Requirements for MEM13015 Work safely and effectively in manufacturing and engineering2475

MEM14006 Plan work activities2478

Assessment Requirements for MEM14006 Plan work activities.....2482

MEM16006 Organise and communicate information2484

Assessment Requirements for MEM16006 Organise and communicate information2488

MEM18001 Use hand tools2490

Assessment Requirements for MEM18001 Use hand tools.....2494

MEM18002 Use power tools/hand held operations2496

Assessment Requirements for MEM18002 Use power tools/hand held operations2500

MEM18003 Use tools for precision work2502

Assessment Requirements for MEM18003 Use tools for precision work.....2507

MEM18006 Perform precision fitting of engineering components2509

Assessment Requirements for MEM18006 Perform precision fitting of engineering components2514

MEM18018 Maintain pneumatic system components2516

Assessment Requirements for MEM18018 Maintain pneumatic system components ...2520

MEM18019 Maintain pneumatic systems2522

Assessment Requirements for MEM18019 Maintain pneumatic systems.....2527

MEM18020 Maintain hydraulic system components2530

Assessment Requirements for MEM18020 Maintain hydraulic system components2534

MEM18021 Maintain hydraulic systems.....2536

Assessment Requirements for MEM18021 Maintain hydraulic systems2541

MEM18055 Dismantle, replace and assemble engineering components2544

Assessment Requirements for MEM18055 Dismantle, replace and assemble engineering components2548

MEM18071 Connect and disconnect fluid conveying system components.....2550

Assessment Requirements for MEM18071 Connect and disconnect fluid conveying system components2555

MEM30021 Prepare a simple production schedule2558

Assessment Requirements for MEM30021 Prepare a simple production schedule2561

MEM30032 Produce basic engineering drawings2563

Assessment Requirements for MEM30032 Produce basic engineering drawings2567

MSFDN4003 Produce patterns and templates2569

Assessment Requirements for MSFDN4003 Produce patterns and templates2573

MSFFM3032 Set up, operate and maintain sawing machines2575

Assessment Requirements for MSFFM3032 Set up, operate and maintain sawing machines 2578

MSFFM3037 Set up, operate and maintain routing and shaping machines2581

Assessment Requirements for MSFFM3037 Set up, operate and maintain routing and shaping machines.....2584

MSFGN2001 Make measurements and calculations2586

Assessment Requirements for MSFGN2001 Make measurements and calculations2589

MSL973022 Conduct laboratory-based acceptance tests for construction materials.....2591

Assessment Requirements for MSL973022 Conduct laboratory-based acceptance tests for construction materials2595

MSMOPS102 Perform tasks to support production2597

Assessment Requirements for MSMOPS102 Perform tasks to support production2602

MSMOPS212 Use organisation computers or data systems2604

Assessment Requirements for MSMOPS212 Use organisation computers or data systems 2610

MSMPCI102 Apply effective work practices2613

Assessment Requirements for MSMPCI102 Apply effective work practices.....2619

MSMSUP200 Achieve work outcomes2621

Assessment Requirements for MSMSUP200 Achieve work outcomes.....2625

MSMSUP230 Monitor process operations2627
Assessment Requirements for MSMSUP230 Monitor process operations.....2632
MSMSUP240 Undertake minor maintenance2635
Assessment Requirements for MSMSUP240 Undertake minor maintenance.....2638
MSMSUP291 Participate in continuous improvement.....2640
Assessment Requirements for MSMSUP291 Participate in continuous improvement ..2644
MSMSUP292 Sample and test materials and product2646
Assessment Requirements for MSMSUP292 Sample and test materials and product ...2650
MSMSUP303 Identify equipment faults2652
Assessment Requirements for MSMSUP303 Identify equipment faults2658
MSMSUP390 Use structured problem-solving tools2661
Assessment Requirements for MSMSUP390 Use structured problem-solving tools.....2664
MSS027014 Apply environmental legislation, codes and standards2666
Assessment Requirements for MSS027014 Apply environmental legislation, codes and standards2670
MSS402042 Apply 5S procedures2672
Assessment Requirements for MSS402042 Apply 5S procedures.....2675
MSS403003 Contribute to improvements in competitive systems and practices.....2677
Assessment Requirements for MSS403003 Contribute to improvements in competitive systems and practices.....2680
MSS403012 Facilitate change in a competitive systems and practices environment.....2682
Assessment Requirements for MSS403012 Facilitate change in a competitive systems and practices environment.....2686
MSS403022 Facilitate a Just in Time system2688
Assessment Requirements for MSS403022 Facilitate a Just in Time system.....2691
MSS404056 Apply statistics to operational processes.....2693
Assessment Requirements for MSS404056 Apply statistics to operational processes2695
MSS405055 Manage application of Six Sigma for process control and improvement ...2697
Assessment Requirements for MSS405055 Manage application of Six Sigma for process control and improvement.....2700
MSS407026 Lead a process to determine and solve root cause for a complex problem.2702
Assessment Requirements for MSS407026 Lead a process to determine and solve root cause for a complex problem.....2705
MSS407029 Improve visual management in the workplace2706
Assessment Requirements for MSS407029 Improve visual management in the workplace 2709
PSPPCM007 Manage contracts2711
Assessment Requirements for PSPPCM007 Manage contracts.....2714
PUAEQU001 Prepare, maintain and test response equipment2716
Assessment Requirements for PUAEQU001 Prepare, maintain and test response equipment.....2719
PUAFIR017 Work safely around aircraft2721
Assessment Requirements for PUAFIR017 Work safely around aircraft2724
PUAFIR201 Assist with prescribed burning2726
Assessment Requirements for PUAFIR201 Assist with prescribed burning.....2730
PUAFIR203 Respond to urban fire.....2732
Assessment Requirements for PUAFIR203 Respond to urban fire2739
PUAFIR204 Respond to wildfire2742
Assessment Requirements for PUAFIR204 Respond to wildfire2746
PUAFIR205 Respond to aviation incident (specialist).....2749
Assessment Requirements for PUAFIR205 Respond to aviation incident (specialist) ...2752
PUAFIR207 Operate breathing apparatus open circuit.....2755
Assessment Requirements for PUAFIR207 Operate breathing apparatus open circuit 2759
PUAFIR210 Prevent injury2761

Assessment Requirements for PUAFIR210 Prevent injury2764
PUAFIR220 Respond to isolated structure fire.....2766
Assessment Requirements for PUAFIR220 Respond to isolated structure fire2770
PUAFIR303 Suppress wildfire.....2772
Assessment Requirements for PUAFIR303 Suppress wildfire2776
PUAFIR309 Operate pumps.....2779
Assessment Requirements for PUAFIR309 Operate pumps2783
PUAFIR323 Take local weather observations.....2785
Assessment Requirements for PUAFIR323 Take local weather observations2788
PUAFIR325 Operate heavy plant in fire control operations2790
Assessment Requirements for PUAFIR325 Operate heavy plant in fire control operations 2793
PUAFIR326 Push trees with machines in forest fire control operations.....2796
Assessment Requirements for PUAFIR326 Push trees with machines in forest fire control operations2800
PUAFIR402 Conduct simple prescribed burns.....2803
Assessment Requirements for PUAFIR402 Conduct simple prescribed burns2808
PUAFIR406 Develop simple prescribed burn plans.....2811
Assessment Requirements for PUAFIR406 Develop simple prescribed burn plans2816
PUAFIR407 Interpret and analyse fire weather information.....2819
Assessment Requirements for PUAFIR407 Interpret and analyse fire weather information 2822
PUAFIR417 Supervise machinery use in wildfire operations.....2824
Assessment Requirements for PUAFIR417 Supervise machinery use in wildfire operations 2828
PUAFIR501 Conduct fire investigation and analysis activities2831
Assessment Requirements for PUAFIR501 Conduct fire investigation and analysis activities.....2835
PUAFIR506 Conduct complex prescribed burns.....2837
Assessment Requirements for PUAFIR506 Conduct complex prescribed burns.....2844
PUAFIR509 Implement prevention strategies2847
Assessment Requirements for PUAFIR509 Implement prevention strategies2850
PUAFIR515 Develop complex prescribed burn plans.....2852
Assessment Requirements for PUAFIR515 Develop complex prescribed burn plans2858
PUALAW001 Protect and preserve incident scene2861
Assessment Requirements for PUALAW001 Protect and preserve incident scene.....2864
PUALAW002 Conduct initial investigation at incident scene2866
Assessment Requirements for PUALAW002 Conduct initial investigation at incident scene 2869
PUAOPE013 Operate communications systems and equipment2872
Assessment Requirements for PUAOPE013 Operate communications systems and equipment.....2875
PUAOPE014 Navigate to an incident.....2877
Assessment Requirements for PUAOPE014 Navigate to an incident2880
PUAOPE016 Manage a multi-team sector.....2882
Assessment Requirements for PUAOPE016 Manage a multi-team sector.....2886
PUATEA001 Work in a team2888
Assessment Requirements for PUATEA001 Work in a team.....2891
PUATEA002 Work autonomously.....2893
Assessment Requirements for PUATEA002 Work autonomously2897
PUAWHS002 Maintain safety at an incident scene.....2899
Assessment Requirements for PUAWHS002 Maintain safety at an incident scene2902
RIIHAN308F Load and unload plant2904
Assessment Requirements for RIIHAN308F Load and unload plant2907
RIIMPO315E Conduct tractor operations.....2911
Assessment Requirements for RIIMPO315E Conduct tractor operations2914
RIIMPO317F Conduct roller operations2918

Assessment Requirements for RIIMPO317F Conduct roller operations.....2921
RIIMPO318F Conduct civil construction skid steer loader operations2925
Assessment Requirements for RIIMPO318F Conduct civil construction skid steer loader operations2929
RIIMPO319E Conduct backhoe/loader operations.....2934
Assessment Requirements for RIIMPO319E Conduct backhoe/loader operations2938
RIIMPO320F Conduct civil construction excavator operations.....2943
Assessment Requirements for RIIMPO320F Conduct civil construction excavator operations2947
RIIMPO321F Conduct civil construction wheeled front end loader operations2952
Assessment Requirements for RIIMPO321F Conduct civil construction wheeled front end loader operations2956
RIIMPO322E Conduct civil construction tracked front end loader operations2960
Assessment Requirements for RIIMPO322E Conduct civil construction tracked front end loader operations2964
RIIMPO323E Conduct civil construction dozer operations.....2968
Assessment Requirements for RIIMPO323E Conduct civil construction dozer operations 2972
RIIMPO324F Conduct civil construction grader operations2977
Assessment Requirements for RIIMPO324F Conduct civil construction grader operations 2981
RIIPGP201D Conduct pump operations2986
Assessment Requirements for RIIPGP201D Conduct pump operations2988
RIIVEH304E Conduct tip truck operations.....2991
Assessment Requirements for RIIVEH304E Conduct tip truck operations2994
SIRRINV001 Receive and handle retail stock.....2998
Assessment Requirements for SIRRINV001 Receive and handle retail stock3001
SIRRRTF001 Balance and secure point-of-sale terminal.....3003
Assessment Requirements for SIRRRTF001 Balance and secure point-of-sale terminal3005
SIRWSLS001 Process product and service data.....3007
Assessment Requirements for SIRWSLS001 Process product and service data.....3009
SIRXCEG003 Build customer relationships and loyalty.....3011
Assessment Requirements for SIRXCEG003 Build customer relationships and loyalty3013
SIRXCEG005 Maintain business to business relationships.....3015
Assessment Requirements for SIRXCEG005 Maintain business to business relationships3018
SIRXSLS001 Sell to the retail customer.....3020
Assessment Requirements for SIRXSLS001 Sell to the retail customer.....3023
TAEDEL301 Provide work skill instruction.....3026
Assessment Requirements for TAEDEL301 Provide work skill instruction.....3030
TAEDEL311 Provide work skill instruction.....3032
Assessment Requirements for TAEDEL311 Provide work skill instruction.....3035
TAEDEL411 Facilitate vocational training.....3037
Assessment Requirements for TAEDEL411 Facilitate vocational training3040
TAEDEL412 Facilitate workplace-based learning.....3043
Assessment Requirements for TAEDEL412 Facilitate workplace-based learning3047
TAEDEL414 Mentor in the workplace.....3049
Assessment Requirements for TAEDEL414 Mentor in the workplace.....3052
TAEDES412 Design and develop plans for vocational training3054
Assessment Requirements for TAEDES412 Design and develop plans for vocational training3057
TLIA0004 Complete receipt and despatch documentation.....3060
Assessment Requirements for TLIA0004 Complete receipt and despatch documentation3063
TLIA0015 Organise receipt and despatch operations.....3065
Assessment Requirements for TLIA0015 Organise receipt and despatch operations ..3068
TLIA0019 Despatch stock.....3070

Assessment Requirements for TLIA0019 Despatch stock	3073
TLIA0022 Pick and process orders	3075
Assessment Requirements for TLIA0022 Pick and process orders	3078
TLIA0024 Replenish stock.....	3080
Assessment Requirements for TLIA0024 Replenish stock	3083
TLID0006 Move materials mechanically using automated equipment.....	3085
Assessment Requirements for TLID0006 Move materials mechanically using automated equipment.....	3088
TLID0007 Operate specialised load shifting equipment.....	3090
Assessment Requirements for TLID0007 Operate specialised load shifting equipment	3094
TLID0015 Load and unload goods/cargo.....	3096
Assessment Requirements for TLID0015 Load and unload goods/cargo	3099
TLID0016 Operate a forklift	3101
Assessment Requirements for TLID0016 Operate a forklift	3104
TLID0020 Shift materials safely using manual handling methods	3106
Assessment Requirements for TLID0020 Shift materials safely using manual handling methods	3109
TLID1001 Shift materials safely using manual handling methods	3111
Assessment Requirements for TLID1001 Shift materials safely using manual handling methods	3114
TLID2022 Conduct weighbridge operations	3117
Assessment Requirements for TLID2022 Conduct weighbridge operations.....	3120
TLID3011 Conduct specialised forklift operations.....	3122
Assessment Requirements for TLID3011 Conduct specialised forklift operations	3125
TLIF0009 Ensure the safety of transport activities (Chain of Responsibility).....	3128
Assessment Requirements for TLIF0009 Ensure the safety of transport activities (Chain of Responsibility)	3131
TLIF0014 Monitor the safety of transport activities (Chain of Responsibility).....	3133
Assessment Requirements for TLIF0014 Monitor the safety of transport activities (Chain of Responsibility)	3137
TLIF0022 Conduct housekeeping activities	3140
Assessment Requirements for TLIF0022 Conduct housekeeping activities.....	3143
TLIF2010 Apply fatigue management strategies	3145
Assessment Requirements for TLIF2010 Apply fatigue management strategies	3148
TLIF4064 Manage fatigue management policy and procedures.....	3150
Assessment Requirements for TLIF4064 Manage fatigue management policy and procedures	3155
TLIH0005 Interpret road maps and navigate pre-determined routes.....	3158
Assessment Requirements for TLIH0005 Interpret road maps and navigate pre-determined routes	3161
TLIJ0003 Apply quality systems.....	3163
Assessment Requirements for TLIJ0003 Apply quality systems	3166
TLILIC0003 Licence to operate a forklift truck	3168
Assessment Requirements for TLILIC0003 Licence to operate a forklift truck.....	3173
TLILIC0024 Licence to operate a vehicle loading crane (capacity 10 metre tonnes and above).....	3179
Assessment Requirements for TLILIC0024 Licence to operate a vehicle loading crane (capacity 10 metre tonnes and above)	3185
TLILIC2014 Licence to drive a light rigid vehicle	3193
Assessment Requirements for TLILIC2014 Licence to drive a light rigid vehicle	3196
TLILIC2015 Licence to drive a medium rigid vehicle.....	3199
Assessment Requirements for TLILIC2015 Licence to drive a medium rigid vehicle ...	3202
TLIR4002 Source goods/services and evaluate contractors.....	3205

Assessment Requirements for TLIR4002 Source goods/services and evaluate contractors	3208
TLIX0004X Administer inventory systems	3210
Assessment Requirements for TLIX0004X Administer inventory systems	3213
TLIX0013X Maintain stock control and receivals	3215
Assessment Requirements for TLIX0013X Maintain stock control and receivals	3218
FWP Forest and Wood Products Training Package	3221
FWPSS00039 Skill Set for Hydraulic Maintenance of Saw Technology	3224
FWPSS00040 Skill Set for Pneumatic Maintenance of Saw Technology	3229
FWPSS00041 Cutting Timber to Length and Angle Skill Set	3234
FWPSS00042 Timber Wall Frame Manufacture Skill Set	3236
FWPSS00043 Timber Roof Truss Manufacture Skill Set	3238
FWPSS00044 Timber Floor Truss Manufacture Skill Set	3240
FWPSS00045 Stacking and Storing Timber Frames and Trusses Skill Set	3242
FWPSS00046 Infield Wood Chipping Machine Operator Skill Set (Flail and Wood Chipper with Crane)	3244
FWPSS00047 Infield Wood Chipping Machine Operator Skill Set (Flail and Wood Chipper Fed by a Mobile Machine)	3246
FWPSS00048 Mechanical Processor Operator Skill Set	3248
FWPSS00049 Native Forest Operator Skill Set	3250
FWPSS00050 Plantation Forest Operator Skill Set	3252
FWPSS00051 Fire Salvage Operator Skill Set	3254
FWPSS00052 Off Road Four Wheel Drive Operator Skill Set	3256
FWPSS00053 Soil and Water Protection (Roothing) Skill Set	3258
FWPSS00054 Log Truck Driver Skill Set	3260
FWPSS00055 Forestry Produce Truck Driver Skill Set	3262
FWPSS00056 Crawler Tractor Operator Skill Set	3264
FWPSS00057 Feller Buncher Operator Skill Set	3266
FWPSS00058 Forwarder Operator Skill Set	3268
FWPSS00059 Loader Operator Skill Set	3270
FWPSS00060 Single Grip Harvester Operator Skill Set	3272
FWPSS00061 Skidder Operator Skill Set	3274
FWPSS00062 Excavator with Log Grapple Operator Skill Set	3276
FWPSS00063 Entry into Forestry Roles Skill Set	3278
FWPSS00064 Plantation Establishment Worker Skill Set	3280
FWPSS00065 Silviculture Worker Skill Set	3282
FWPSS00066 Excavator Operator Skill Set	3284
FWPSS00067 Skid Steer Loader Operator (Forestry) Skill Set	3286

FWP Forest and Wood Products Training Package

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Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWP20122 Certificate II in Forest Operations

Modification History

Release	Comments
Release 2	This version released with FWP Forest and Wood Products Training Package Version 9.0.
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Qualification Description

This qualification reflects the job of people who provide support to forest operations in a variety of forestry contexts. It is also suitable for learners involved in school-based VET traineeships and other VET in school programs.

Individuals with this qualification apply specialised skills and knowledge relevant to entry-level roles in forest operations. This includes a basic understanding of the industry and the risks involved in forest operations. They are also expected to conduct basic forest operations.

At this level, workers complete tasks under close supervision involving known routines and procedures but variable work tasks in collaboration with others.

This qualification enables specialisations in:

- Forest Nursery Production,
- Silviculture, or
- Timber Harvesting.

No licensing, legislative or certification requirements apply to this qualification at the time of publication.

Entry Requirements

There are no entry requirements for this qualification.

Packaging Rules

To achieve this qualification, competency must be demonstrated in:

- 13 units of competency:
 - 5 core units
 - 8 elective units.

Elective units must ensure the integrity of the alignment between the qualification and the Australian Qualifications Framework (AQF) and contribute to a valid, industry-supported vocational outcome. Electives can be chosen to provide a general qualification or a qualification with a specialisation.

For the award of the *FWP20122 Certificate II in Forest Operations* choose:

- at least 6 units from the electives in Groups A to H
- up to 2 units from the remaining electives in Groups A to H, or from any currently endorsed Training Package or accredited course.

For the award of the *FWP20122 Certificate II in Forest Operations (Forest Nursery Production)* choose:

- at least 4 units from the electives in Groups B and/or F
- at least 2 units from the electives in Groups A to H, excluding specialisation electives already selected
- up to 2 units from the remaining electives in Groups A to H, or from any currently endorsed Training Package or accredited course.

For the award of the *FWP20122 Certificate II in Forest Operations (Silviculture)* choose:

- at least 4 units from the electives in Groups C and/or F
- at least 2 units from the electives in Groups A to H, excluding specialisation electives already selected
- up to 2 units from the remaining electives in Groups A to H, or from any currently endorsed Training Package or accredited course.

For the award of the *FWP20122 Certificate II in Forest Operations (Timber Harvesting)* choose:

- at least 4 units from the electives in Groups D and/or E
- at least 2 units from the electives in Groups A to H, excluding specialisation electives already selected
- up to 2 units from the remaining electives in Groups A to H, or from any currently endorsed Training Package or accredited course.

Core Units

FWPCOR2206	Work effectively in the forest and wood products industry
FWPCOR2208	Communicate and interact effectively in the forest and wood products industry

FWPCOR2209	Follow environmental protection procedures in forest and wood products operations
FWPCOR2210	Follow workplace health and safety policies and procedures in forest and wood products operations
FWPCOR2211	Develop knowledge of the forest and wood products industry

Elective Units

An asterisk (*) next to the unit code indicates that there are prerequisite requirements which must be met when packaging the qualification. Please refer to the Prerequisite requirements table for details.

Group A: Safety, Environment, Quality and Cultural Heritage

AHCOCM201	Maintain cultural sites
BSBWHS211	Contribute to the health and safety of self and others
FBPOPR2074	Carry out manual handling tasks
FWPCOT2264	Follow quality and product care procedures in forest and wood products operations
FWPCOT3314	Comply with soil and water protection
FWPCOT3324	Apply cultural heritage protection requirements in forest operations
HLTAID011	Provide First Aid
TLID0020	Shift materials safely using manual handling methods

Group B: Forest Nursery Production Operations

Seed Orchard

FWPNSY2001	Collect tree seeds
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Tree Propagation

FWPNSY2002	Cut, sort and set cuttings
FWPNSY2004	Prick out and transplant tree seedlings
FWPNSY2005	Apply tree seed treatment

Tree Stock Quality

AHCBIO204	Follow site biosecurity procedures
FWPNSY2003	Follow quality procedures in forest nursery production

Nursery Equipment

AHCMOM202	Operate tractors
AHCMOM216	Operate side by side utility vehicles
TLID0007	Operate specialised load shifting equipment
TLILIC0003	Licence to operate a forklift truck

Group C: Silviculture Operations**Tree Planting**

FWPSIL2002	Plant trees by hand
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Tree Pruning

FWPCOT3301	Trim trees using a pole saw
FWPCOT3317	Use chainsaw within a tree
FWPSIL2001	Select and mark trees for tending operations
FWPSIL2003	Prune trees

Forest Health

AHCPMG201	Treat weeds
AHCPMG202	Treat plant pests, diseases and disorders
FWPCOT2266	Operate brush cutter

Forest Inventory

FWPSIL2004	Collect forest data or samples for assessment and analysis
FWPSIL2005	Measure trees

Hand Tree Felling

FWPCOT2254	Maintain chainsaws
FWPCOT2273	Trim and cut felled trees
FWPCOT2275	Fell trees manually (basic)

UTV/ATV Vehicles

FWPCOT2265	Navigate in forest areas
FWPCOT3325	Operate four wheel drive vehicle on unsealed roads
FWPCOT3326	Recover four wheel drive vehicle

Group D: Timber Harvesting Operations

Commercial Manual Tree Felling

FWPHAR2209	Trim and cut harvested trees
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Mechanical Tree Felling

FWPHAR2210	Operate a forest machine simulator in a virtual environment
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Log Extraction, Landing and Loading

FWPHAR2201	Hook up felled trees (choker)
FWPHAR2202	Perform landing duties (chaser)

Log Sorting, Grading and Marking

FWPCOT2242	Segregate and sort logs
FWPCOT3270	Grade and mark logs

Group E: Fire Control

Bushfire Awareness and Prevention

FWPFIR2001	Follow fire prevention procedures
FWPFIR2002	Detect fire in a native forest or plantation
FWPFIR3002	Apply communication protocols during post-bushfire vegetation clearing and clean-up operations

Bushfire Suppression

PUAEQU001 *	Prepare, maintain and test response equipment
PUAFIR017	Work safely around aircraft
PUAFIR204 *	Respond to wildfire
PUAFIR210	Prevent injury
PUALAW001	Protect and preserve incident scene
PUAOPE013	Operate communications systems and equipment
PUATEA001	Work in a team

Prescribed Burning

PUAFIR201 *	Assist with prescribed burning
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Group F: Chemical Application

AHCCHM201	Apply chemicals under supervision
AHCCHM304	Transport and store chemicals
AHCCHM307	Prepare and apply chemicals to control pest, weeds and diseases

Group G: Other Operations**Fencing**

AHCINF206	Install, maintain and repair farm fencing
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Site Access and Rooding

AHCSAW203	Conduct erosion and sediment control activities
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In-field Processing

AHCARB212	Operate and maintain stump grinding machines
FWPCOT2267	Operate mobile hydraulic log splitter
FWPHAR2208	Operate a mobile chipper/mulcher

Drone Technology

AVIY0028	Operate remotely piloted aircraft in excluded category sub-2 kg operations
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Group H: Personal Effectiveness

BSBPEF202	Plan and apply time management
FSKOCM007	Interact effectively with others at work
FSKRDG007	Read and respond to simple workplace information
FSKWTG006	Write simple workplace information

Prerequisite requirements

Units listed in the *Prerequisite requirement* column that have their own prerequisite requirements are shown with an asterisk (*)

Unit of competency	Prerequisite requirement
PUAEQU001 Prepare, maintain and test response equipment	PUAFIR210 Prevent injury
PUAFIR201 Assist with prescribed burning	PUAFIR210 Prevent injury
PUAFIR204 Respond to wildfire	PUAFIR210 Prevent injury

Qualification Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWP20122 Certificate II in Forest Operations Release 2	FWP20122 Certificate II in Forest Operations Release 1	New code for elective unit	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWP20322 Certificate II in Timber and Wood Products Operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Qualification Description

This qualification reflects the jobs of people who support production processes in timber and wood product production facilities. It is suitable for learners involved in school-based VET traineeships and other VET in school programs focused on the production of timber and wood products.

Individuals with this qualification apply skills and knowledge to work in operational support roles in the production of timber and wood products. They have a basic understanding of the employee responsibilities in the timber and wood products sector. They also possess the skills to work safely, contribute to teamwork in a production environment, operate basic equipment and grade, sort and stack timber or wood products.

At this level, workers complete work tasks under close supervision involving known routines and procedures.

No licensing, legislative or certification requirements apply to this qualification at the time of publication.

Entry Requirements

There are no entry requirements for this qualification.

Packaging Rules

To achieve this qualification, competency must be demonstrated in:

- 13 units of competency:
 - 4 core units
 - 9 elective units.

Elective units must ensure the integrity of the alignment between the qualification and Australian Qualifications Framework (AQF) and contribute to a valid, industry-supported vocational outcome. The electives are to be chosen as follows:

- at least 3 units must be selected from Group A

- at least 3 units must be selected from Group B
- remaining units may be selected from Groups A to C and may include up to 2 units from any currently endorsed Training Package or accredited course.

Core Units

FWPCOR2208	Communicate and interact effectively in the forest and wood products industry
FWPCOR2210	Follow workplace health and safety policies and procedures in forest and wood products operations
FWPCOR2211	Develop knowledge of the forest and wood products industry
FWPCOT2264	Follow quality and product care procedures in forest and wood products operations

Elective Units

An asterisk (*) next to the unit code indicates that there are prerequisite requirements which must be met when packaging the qualification. Please refer to the Prerequisite requirements table for details.

Group A

Production effectiveness

FWPCOR2206	Work effectively in the forest and wood products industry
MSMOPS102	Perform tasks to support production
MSMPCI102	Apply effective work practices
TLIF0022	Conduct housekeeping activities

Basic support operations

FWPCOT2243	Tail out timber product and waste material
FWPCOT2257	Use hand-held tools
MEM11011 *	Undertake manual handling
MEM13015	Work safely and effectively in manufacturing and engineering

MEM16006 *	Organise and communicate information
MSFGN2001	Make measurements and calculations
TLID0020	Shift materials safely using manual handling methods

Group B

Timber grading

FWPCOT2246	Appearance grade hardwood sawn and milled products
FWPCOT2249	Visually stress grade hardwood
FWPCOT2250	Visually stress grade softwood
FWPCOT2251	Visually stress grade cypress

Machine operations

FWPCOT2244	Operate and maintain a thicknesser
FWPCOT2262	Cut material to shape using a saw
FWPCOT2263	Cross cut materials with a fixed saw
FWPCOT2268	Cut timber or engineered wood product to length or dimensions
FWPCOT2269	Operate and maintain a table saw
FWPCOT3337	Operate timber finger jointing line
FWPTMM220 4	Machine material
FWPTMM220 5	Cut material to length and angles

Blades and Cutters Maintenance

FWPCOT3271	Hand sharpen knives and blades for commercial and domestic cutting services
FWPCOT3276	Sharpen cutters using a straight knife grinder
FWPSAW3247	Replace tungsten tips
MEM05006 *	Perform brazing and/or silver soldering

Chemical handling

AHCCHM101	Follow basic chemical safety rules
AHCCHM201	Apply chemicals under supervision

Sorting, Stacking and Packing

FWPCOT2206	Stack and bind material
FWPCOT2271	Pack timber or wood products for despatch
FWPCOT2272	Rack timber or round poles
FWPCOT3320	Build and maintain timber stacks
FWPSAW2213	De-stack timber drying racks
FWPSAW2214	Sort timber boards manually

Timber Yard and Despatch

FWPCOT2255	Store materials
FWPCOT2259	Cut materials with a hand-held chainsaw
FWPCOT2260	Tally material
FWPCOT2261	Process orders and prepare for despatch

Load Handling

AHCMOM207	Conduct front-end loader operations
TLID0006	Move materials mechanically using automated equipment
TLID0007	Operate specialised load shifting equipment
TLID0015	Load and unload goods/cargo
TLID0016	Operate a forklift
TLILIC0003	Licence to operate a forklift truck

Group C**Other electives**

AHCWRK323	Operate in isolated and remote situations
FWPCOR2209	Follow environmental protection procedures in forest and

	wood products operations
FWPCOT2254	Maintain chainsaws
FWPCOT2270	Cut wood material with pole saw for unblocking machinery components
FWPCOT3202	Navigate in remote or trackless areas
FWPCOT3325	Operate four wheel drive vehicle on unsealed roads
HLTAID011	Provide First Aid

Prerequisite requirements

Units listed in the *Prerequisite requirement* column that have their own prerequisite requirements are shown with an asterisk (*)

Unit of competency	Prerequisite requirement
MEM05006 Perform brazing and or silver soldering	MEM11011 Undertake manual handling * MEM13015 Work safely and effectively in manufacturing and engineering MEM16006 Organise and communicate information *
MEM11011 Undertake manual handling	MEM13015 Work safely and effectively in manufacturing and engineering MEM16006 Organise and communicate information *
MEM16006 Organise and communicate information	MEM13015 Work safely and effectively in manufacturing and engineering

Qualification Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWP20322 Certificate II in Timber and Wood Products Operations	FWP20316 Certificate II in Sawmilling and Processing	Qualification merged with FWP20516 Certificate II in Timber Manufactured Products	Not equivalent

Code and title current version	Code and title previous version	Comments	Equivalence status
		Title changed Revised packaging rules Reduced the number of core units Revised the structure (groups) of the elective units Imported elective units from other training packages Added new units and revised existing units	
FWP20322 Certificate II in Timber and Wood Products Operations	FWP20516 Certificate II in Timber Manufactured Products	Qualification merged with FWP20316 Certificate II in Sawmilling and Processing Title changed Revised packaging rules Reduced the number of core units Revised the structure (groups) of the elective units Imported elective units from other training packages Added new units and revised existing units	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWP30122 Certificate III in Forest Operations

Modification History

Release	Comments
Release 2	This version released with FWP Forest and Wood Products Training Package Version 9.0.
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Qualification Description

This qualification describes the job of people who operate at a production level in a forest operation.

Individuals with this qualification apply specialised skills and knowledge relevant to operational roles in forest operations. This includes applying knowledge of health and safety responsibilities and protecting the environment, including the areas of cultural significance. They are also expected to operate equipment according to workplace procedures and conduct work tasks specific to a forest operation.

At this level, workers complete tasks under limited supervision and collaborate with others to meet productivity requirements.

This qualification enables specialisations in:

- Forest Nursery Production,
- Silviculture, or
- Timber Harvesting and Haulage.

No licensing, legislative or certification requirements apply to this qualification at the time of publication.

Entry Requirements

There are no entry requirements for this qualification.

Packaging Rules

To achieve this qualification, competency must be demonstrated in:

- 13 units of competency:
 - 2 core units

- 11 elective units.

Elective units must ensure the integrity of the alignment between the qualification and the Australian Qualifications Framework (AQF) and contribute to a valid, industry-supported vocational outcome. Electives can be chosen to provide a general qualification or a qualification with a specialisation.

For the award of the *FWP30122 Certificate III in Forest Operations* choose:

- 1 unit from the electives in Group A or 2 units from the electives in Group B
- at least 7 units from the electives in Groups C to K
- up to 2 units from the remaining electives in Groups C to K, or from any currently endorsed Training Package or accredited course.

For the award of the *FWP30122 Certificate III in Forest Operations (Forest Nursery Production)* choose:

- at least 4 units from the electives in Groups D and/or I
- at least 5 units from the electives in Groups A to K, excluding specialisation electives already selected
- up to 2 units from the remaining electives in Groups A to K, or from any currently endorsed Training Package or accredited course.

For award of the *FWP30122 Certificate III in Forest Operations (Silviculture)* choose:

- 1 unit from the electives in Group A or 2 units from the electives in Group B
- at least 4 units from the electives in Groups E and/or I
- at least 3 units from the electives in Groups C to K, excluding specialisation electives already selected
- up to 2 units from the remaining electives in Groups C to K, or from any currently endorsed Training Package or accredited course.

For award of the *FWP30122 Certificate III in Forest Operations (Timber Harvesting and Haulage)* choose:

- 1 unit from the electives in group A or 2 units from the electives in Group B
- at least 4 units from the electives in Group F
- at least 3 units from the electives in Groups C to K, excluding specialisation electives already selected
- up to 2 units from the remaining electives in Groups C to K, or from any currently endorsed Training Package or accredited course.

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Core Units

FWPCOR2206	Work effectively in the forest and wood products industry
FWPCOR2208	Communicate and interact effectively in the forest and wood products industry

Elective Units

An asterisk (*) next to the unit code indicates that there are prerequisite requirements which must be met when packaging the qualification. Please refer to the Prerequisite requirements table for details.

Group A: Safety and Environment

FWPCOR3205	Apply safety, health and environmental requirements in forest and wood products operations
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Group B: Safety and Environment

FWPCOR2209	Follow environmental protection procedures in forest and wood products operations
FWPCOR2210	Follow workplace health and safety policies and procedures in forest and wood products operations

Group C: Safety and Environment

AHCOCM401	Protect places of cultural significance
FWPCOT3311	Use environmental care procedures to undertake fire salvage operations
FWPCOT3312	Implement environmentally sustainable work practices in the work area/work site
FWPCOT3313	Apply biodiversity protection principles
FWPCOT3314	Comply with soil and water protection
FWPCOT3321 *	Apply situational awareness and a safety mindset in operational forestry roles
FWPCOT3322	Apply quality and product care procedures in forest and wood products operations
FWPCOT3324	Apply cultural heritage protection requirements in forest operations
HLTAID009	Provide cardiopulmonary resuscitation
HLTAID011	Provide First Aid
HLTAID013	Provide First Aid in remote or isolated site

HLTAID014	Provide Advanced First Aid
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Group D: Forest Nursery Production Operations

Seed Orchard

FWPNSY3001	Graft nursery stock for planting in seed orchard
FWPNSY3002	Extract, clean, store and despatch tree seeds
FWPNSY3004	Identify, evaluate and mark quality seed trees
FWPNSY3005	Maintain seed orchard

Tree propagation

AHCNSY207	Undertake propagation activities
FWPNSY2005	Apply tree seed treatment

Tree Stock Growing

AHCWRK215	Collect and record production data
FBPVIT3004	Monitor and maintain nursery plants
FWPNSY3003	Apply knowledge of tree stock growing in a forest nursery
FWPNSY3006	Manage mother plants

Nursery Infrastructure

AHCIRG328	Operate irrigation controller and sensor technology
AHCIRG346	Operate pressurised irrigation systems
AHCNSY314	Operate fertigation equipment
FWPNSY3007	Operate automated topping system as part of tree production nursery operations
FWPNSY3008	Operate automated seed sowing line for containerised forest seedling production

Tree Stock Quality

AHCBIO303	Apply biosecurity measures
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AHCWRK404	Implement quality assurance procedures
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Group E: Silviculture Operations

Mechanical Site Preparation

FWPSIL3003	Use mechanised equipment for forestry site preparation
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Tree Planting

FWPSIL3002	Plant trees mechanically
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Forest Pruning

FWPCOT3301	Trim trees using a pole saw
FWPSIL2003	Prune trees
FWPSIL3001	Apply sustainable silviculture treatments

Forest Health

AHCMOM306	Ground spread fertiliser and soil ameliorant
AHCPMG301	Control weeds
AHCPMG302	Control plant pests, diseases and disorders
AHCPMG304	Use firearms to humanely destroy animals
AHCPMG309	Apply pest animal control techniques

Hand Tree Felling

AHCARB318 *	Undertake aerial rescue
AHCARB319	Use arborist climbing techniques
FWPCOT3317	Use chainsaw within a tree
FWPCOT3330	Apply tree jacking techniques in felling trees
FWPCOT3350	Fell trees manually (intermediate)
FWPCOT3351	Fell trees manually (advanced)

UTV/ATV Vehicles

FWPCOT2265	Navigate in forest areas
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FWPCOT3325	Operate four wheel drive vehicle on unsealed roads
FWPCOT3326	Recover four wheel drive vehicle
FWPCOT3328	Operate four wheel drive vehicle in a towing situation
FWPCOT3329	Perform complex four wheel drive operations

Group F: Timber Harvesting and Haulage Operations

Commercial Manual Tree Felling

FWPHAR3205	Harvest trees manually (intermediate)
FWPHAR3209	Harvest trees manually (advanced)

Mechanical Tree Felling

FWPHAR3226	Operate feller buncher
FWPHAR3229	Operate single grip harvester
FWPHAR3232	Operate harvesting machine with winch-assist system
FWPHAR3234	Conduct mechanical processor operations
FWPHAR3235	Conduct mechanically assisted tree falling operations

Log Extraction, Landing and Loading

FWPHAR3202	Monitor log recovery (rigging slinger)
FWPHAR3212	Operate yarder
FWPHAR3224	Operate crawler tractor
FWPHAR3225	Operate excavator with log grapple
FWPHAR3227	Operate forwarder
FWPHAR3228	Operate loader
FWPHAR3230	Operate skidder
TLILIC0024	Licence to operate a vehicle loading crane (capacity 10 metre tonnes and above)

Log Sorting, Grading and Marking

FWPCOT3270	Grade and mark logs
FWPCOT3323	Assess wood materials visually

Haulage

FWPCOT3315	Transport forestry logs using trucks
FWPCOT3316	Transport forestry produce using trucks
TLIH0005	Interpret road maps and navigate pre-determined routes
TLIF2010	Apply fatigue management strategies

Technology and Digital Data

FWPCOT3318	Access, capture and communicate forestry field data using mobile devices
FWPCOT3319	Read and interpret digital maps and forest operation plans
FWPHAR3222	Use on-board computer systems for forwarder
FWPHAR3223	Use on-board computer systems for single grip harvester

Equipment Maintenance

AHCMOM301	Coordinate machinery and equipment maintenance and repair
FWPCOT3335	Conduct operator level equipment maintenance in forest and wood products industry

Group G: Site Access and Roding

AHCSAW304	Implement erosion and sediment control measures
FWPCOT3306	Rehabilitate tracks, quarries and landings
FWPFGM3208	Construct and maintain forest roads and tracks
RIIHAN308F	Load and unload plant
RIIMPO315E	Conduct tractor operations
RIIMPO317F	Conduct roller operations

RIIMPO318F	Conduct civil construction skid steer loader operations
RIIMPO319E	Conduct backhoe/loader operations
RIIMPO320F	Conduct civil construction excavator operations
RIIMPO321F	Conduct civil construction wheeled front end loader operations
RIIMPO322E	Conduct civil construction tracked front end loader operations
RIIMPO323E	Conduct civil construction dozer operations
RIIMPO324F	Conduct civil construction grader operations
RIIVEH304E	Conduct tip truck operations

Group H: Fire Control

Bushfire Awareness and Prevention

AHCWRK314	Monitor weather conditions
FWPFIR2001	Follow fire prevention procedures
FWPFIR3001	Assess fire risk
FWPFIR3002	Apply communication protocols during post-bushfire vegetation clearing and clean-up operations
FWPFIR4001	Conduct tree hazard assessment post-fire
PUAFIR323	Take local weather observations

Bushfire Suppression

PUAEQU001 *	Prepare, maintain and test response equipment
PUAFIR203 *	Respond to urban fire
PUAFIR204 *	Respond to wildfire
PUAFIR205 *	Respond to aviation incident (specialist)
PUAFIR207 *	Operate breathing apparatus open circuit
PUAFIR210	Prevent injury

PUAFIR220 *	Respond to isolated structure fire
PUAFIR303 *	Suppress wildfire
PUAFIR309 *	Operate pumps
PUAFIR325	Operate heavy plant in fire control operations
PUAFIR326	Push trees with machines in forest fire control operations
PUALAW002	Conduct initial investigation at incident scene
PUAOPE014	Navigate to an incident
PUATEA001	Work in a team
PUATEA002 *	Work autonomously
PUAWHS002 *	Maintain safety at an incident scene
RIIPGP201D	Conduct pump operations

Prescribed Burning

PUAFIR201 *	Assist with prescribed burning
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Group I: Chemical Application

AHCCHM304	Transport and store chemicals
AHCCHM307	Prepare and apply chemicals to control pest, weeds and diseases

Group J: Other Forestry Operations

Fencing

AHCINF307	Plan and construct conventional fencing
AHCLSC318	Erect timber structures and features

In-field Wood Chipping

FWPHAR3203	Operate integrated or split flail and wood chipper with crane
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FWPHAR3204	Operate split flail and wood chipper fed by mobile machine
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Group K: Personal Effectiveness

BSBLDR301	Support effective workplace relationships
BSBTWK201	Work effectively with others
FWPCOT3346	Communicate effectively with general public or stakeholders concerned about forest practices

Prerequisite requirements

Units listed in the *Prerequisite requirement* column that have their own prerequisite requirements are shown with an asterisk (*)

Unit of competency	Prerequisite requirement
AHCARB318 Undertake aerial rescue	HLTAID011 Provide First Aid AHCARB319 Use arborist climbing techniques
FWPCOT3321 Apply situational awareness and a safety mindset in operational forestry roles	FWPCOR3205 Apply safety, health and environmental requirements in forest and wood products operations or FWPCOR2210 Follow workplace health and safety policies and procedures in forest and wood products operations
PUAEQU001 Prepare, maintain and test response equipment	PUAFIR210 Prevent injury
PUAFIR201 Assist with prescribed burning	PUAFIR210 Prevent injury
PUAFIR203 Respond to urban fire	PUAFIR207 Operate breathing apparatus open circuit *
PUAFIR204 Respond to wildfire	PUAFIR210 Prevent injury
PUAFIR205 Respond to aviation incident (specialist)	PUAFIR203 Respond to urban fire *
PUAFIR207 Operate breathing apparatus open circuit	PUAFIR210 Prevent injury

PUAFIR220 Respond to isolated structure fire	PUAFIR210 Prevent injury
PUAFIR303 Suppress wildfire	PUAFIR204 Respond to wildfire *
PUAFIR309 Operate pumps	PUAEQU001 Prepare, maintain and test response equipment * And one of the following units: PUAFIR203 Respond to urban fire * PUAFIR204 Respond to wildfire * PUAFIR205 Respond to aviation incident (specialist) * PUAFIR220 Respond to isolated structure fire *
PUATEA002 Work autonomously	PUATEA001 Work in a team
PUAWHS002 Maintain safety at an incident scene	PUAFIR210 Prevent injury

Qualification Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWP30122 Certificate III in Forest Operations Release 2	FWP30122 Certificate III in Forest Operations Release 1	New code for elective units	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWP30322 Certificate III in Timber and Wood Products Operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Qualification Description

This qualification describes the skills and knowledge required by people who work in production level jobs in timber or wood product production facilities.

Individuals with this qualification apply specialised skills and knowledge to perform a variety of production roles. These include generic workplace skills in areas such as maintaining personal and team performance, problem solving and complying with health and safety, quality and chain of custody and environmental protection standards. In addition, people working at this level also hold specialised technical skills in areas such as equipment operation and maintenance, process monitoring, product testing and grading. These individuals also understand the production process and workflow in timber or wood products production environments.

At this level, workers complete tasks under limited supervision and collaborate with others to meet productivity requirements.

This qualification includes specialisations in:

- Timber Production
- Glue Laminated Timber or Cross Laminated Timber Production
- Plywood or Laminated Veneer Lumber Production
- Reconstituted Wood Panel Production.

No licensing, legislative or certification requirements apply to this qualification at the time of publication.

Entry Requirements

There are no entry requirements for this qualification.

Packaging Rules

To achieve this qualification, competency must be demonstrated in:

- 13 units of competency:

- 2 core units
- 11 elective units.

Elective units must ensure the integrity of the alignment between the qualification and the Australian Qualifications Framework (AQF) and contribute to a valid, industry supported vocational outcome. Electives can be chosen to provide a general qualification or a qualification with a specialisation.

For the award of the *FWP30322 Certificate III in Timber and Wood Products Operations* choose:

- at least 5 units from the electives in Group A
- at least 4 units from the electives in Groups B to H
- remaining units can be selected from Groups A to H and can include up to 2 units from any currently endorsed Training Package or accredited course.

For the award of the *FWP30322 Certificate III in Timber and Wood Products Operations (Timber Production)* choose:

- at least 5 units from the electives in Group A
- at least 4 units from the electives in Groups B and/or G
- remaining units can be selected from Groups A to H and can include up to 2 units from any currently endorsed Training Package or accredited course.

For the award of the *FWP30322 Certificate III in Timber and Wood Products Operations (Glue Laminated Timber or Cross Laminated Timber Production)* choose:

- at least 5 units from the electives in Group A
- 1 unit from the electives in Group C
- at least 3 units from the electives in Groups G
- remaining units can be selected from Groups A to H and can include up to 2 units from any currently endorsed Training Package or accredited course.

For the award of the *FWP30322 Certificate III in Timber and Wood Products Operations (Plywood or Laminated Veneer Lumber Production)* choose:

- at least 5 units from the electives in Group A
- 2 units from the electives in Groups D
- at least 2 units from the electives in Group G
- remaining units can be selected from Groups A to H and can include up to 2 units from any currently endorsed Training Package or accredited course.

For the award of the *FWP30322 Certificate III in Timber and Wood Products Operations (Reconstituted Wood Panel Production)* choose:

- at least 5 units from the electives in Group A
- 1 unit from the electives in Group E
- at least 3 units from the electives in Group G
- remaining units can be selected from Groups A to H and can include up to 2 units from any currently endorsed Training Package or accredited course.

Core Units

FWPCOR3205	Apply safety, health and environmental requirements in forest and wood products operations
FWPCOT3322	Apply quality and product care procedures in forest and wood products operations

Elective Units

Group A: Quality processes

Production effectiveness

BSBXTW301	Work in a team
FWPCOR2208	Communicate and interact effectively in the forest and wood products industry
MSMOPS212	Use organisation computers or data systems
MSMSUP200	Achieve work outcomes

Competitive systems and practices

MSMSUP291	Participate in continuous improvement
MSMSUP390	Use structured problem-solving tools
MSS402042	Apply 5S procedures

Process monitoring

FWPCOT3323	Assess wood materials visually
MSMSUP230	Monitor process operations

Equipment maintenance

FWPCOT3335	Conduct operator level equipment maintenance in forest and wood products industry
MSMSUP240	Undertake minor maintenance
MSMSUP303	Identify equipment faults

Chain of custody

FWPCOT3345	Develop knowledge of chain of custody certification requirements for forest and wood products
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Grading and testing

FWPCOT2249	Visually stress grade hardwood
FWPCOT2250	Visually stress grade softwood
FWPCOT2251	Visually stress grade cypress
FWPCOT3270	Grade and mark logs
FWPCOT3339	Grade wood product visually
FWPTMM421 3	Test finger jointed timber
FWPTMM421 4	Test laminated wood product
MSL973022	Conduct laboratory-based acceptance tests for construction materials
MSMSUP292	Sample and test materials and product

Group B: Timber production**Product and process optimisation**

FWPCOT3290	Apply knowledge of timber properties, sawmill operations and sawmilling equipment
FWPCOT3291	Apply principles of timber and process optimisation in sawmill operations
FWPCOT3292	Calibrate and maintain scanning equipment used in sawmilling operations
FWPCOT3293	Use scanning equipment for timber grading

Log sawing

FWPSAW3254	Control and monitor automated green mill saw line
FWPSAW3255	Operate conventional log breakdown saw line
FWPSAW3256	Select and saw logs in multi-species operations

Timber stacking

FWPCOT3297	Operate automated stacking equipment
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FWPCOT3320	Build and maintain timber stacks
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Timber drying

FWPSAW3257	Operate timber drying kiln
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Saw knives and blades maintenance

FWPCOT3271	Hand sharpen knives and blades for commercial and domestic cutting services
FWPCOT3276	Sharpen cutters using a straight knife grinder
FWPCOT3280	Replace saw blades, knives and guides
FWPCOT3282	Assess and maintain saw blade and sawing machine performance
FWPCOT3283	Sharpen and position blades or knives in chipper, canter and reducer
FWPCOT3295	Assess and maintain cutter performance
FWPSAW3233	Sharpen circular saw blades
FWPSAW3234	File and set saw blades for hand saws and circular saws

Group C: *Glue laminated timber or cross laminated timber production*

FWPTMM3220	Develop knowledge of glue laminated timber or cross laminated timber production
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Group D: *Plywood or laminated veneer lumber production*

FWPTMM3217	Develop knowledge of plywood or laminated veneer lumber production
FWPTMM3218	Develop knowledge of veneer preparation in plywood or laminated veneer lumber production

Group E: *Reconstituted wood panel production*

FWPTMM3219	Develop knowledge of reconstituted wood panel production
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Group F: Other wood products operations**Wood chips**

FWPCOT3341	Coordinate and monitor wood chip stockpile
FWPCOT3342	Screen wood chips
FWPCOT3343	Test wood chips quality
FWPCOT3344	Transfer wood chips

Wood pallets

FWPCOT2257	Use hand-held tools
FWPCOT2258	Assemble products

Prefabricated timber building systems

FWPTMM320 8	Apply critical workplace processes in the manufacture of prefabricated timber building systems
FWPTMM320 9	Install prefabricated timber building systems on-site

Group G: Common electives**Log yard**

AHCMOM207	Conduct front-end loader operations
FWPCOT3340	Develop knowledge of log yard operations
TLID2022	Conduct weighbridge operations

Timber preservation

FWPSAW3242	Treat timber
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Finger jointing

FWPCOT3336	Coordinate set up and operation of timber finger jointing line
FWPCOT3337	Operate timber finger jointing line

Gluing

FWPCOT3338	Identify glues and gluing systems used in production of wood products
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Dressing

FWPCOT2244	Operate and maintain a thicknesser
FWPCOT3272	Set up and run multi-head moulder/planer to produce simple profiles
FWPCOT3273	Set up and run multi-head moulder to produce complex profiles
FWPTMM220 4	Machine material
FWPTMM321 6	Plane and sand engineered wood product

Cutting to dimensions

FWPCOT2263	Cross cut materials with a fixed saw
FWPCOT2268	Cut timber or engineered wood product to length or dimensions
FWPCOT2269	Operate and maintain a table saw
FWPCOT3274	Cut timber products using high-speed optimiser
FWPSAW3253	Re-saw green timber
FWPTMM220 5	Cut material to length and angles

Machining

FWPCOT2262	Cut material to shape using a saw
FWPCOT3275	Set up, operate and maintain end matching machines
FWPCOT3299	Cut timber or engineered wood product to profile
FWPTMM321 1	Manufacture using joinery machines

CNC machining

FWPCOT3289	Load and prove operating program for CNC machine
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FWPCOT3331	Cut material using CNC sizing machines
FWPCOT3332	Machine timber or engineered wood products using CNC machining and processing centres

Load handling

AHCMOM207	Conduct front-end loader operations
AHCMOM208	Conduct excavator operations
AHCMOM209	Conduct dozer operations
TLID0015	Load and unload goods/cargo
TLID0020	Shift materials safely using manual handling methods
TLID3011	Conduct specialised forklift operations
TLILIC0003	Licence to operate a forklift truck

Energy generation

FWPCOT3333	Conduct heat plant operations
FWPCOT3334	Conduct steam boiler operations

Storage and despatch

FWPCOT3310	Prepare timber or related products to meet import/export compliance requirements
FWPCOT4211	Monitor stock control procedures
TLIA0015	Organise receipt and despatch operations

Waste management

CPPWMT3002	Conduct waste resource recovery
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Group H: Other electives

FWPCOT3302	Access and provide timber and wood product information
FWPCOT3312	Implement environmentally sustainable work practices in the work area/work site
FWPCOT3325	Operate four wheel drive vehicle on unsealed roads

FWPCOT3326	Recover four wheel drive vehicle
FWPCOT3327	Contribute to energy efficiency in the forest and wood products industry
FWPCOT3328	Operate four wheel drive vehicle in a towing situation
FWPCOT3346	Communicate effectively with general public or stakeholders concerned about forest practices
FWPSAW3252	Assemble, operate and dismantle a portable sawmill
TLIF0009	Ensure the safety of transport activities (Chain of Responsibility)
HLTAID011	Provide First Aid

Qualification Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWP30322 Certificate III in Timber and Wood Products Operations	FWP30316 Certificate III in Sawmilling and Processing	Qualification merged with FWP30516 Certificate III in Timber Manufactured Products Title changed Revised packaging rules and created specialisations to better reflect outcomes Reduced the number of core units Revised the structure (groups) of the elective units Imported elective units from other training packages Added new units and revised existing units	Not equivalent
FWP30322 Certificate III in	FWP30516 Certificate III in	Qualification merged with FWP30316 Certificate III	Not equivalent

Code and title current version	Code and title previous version	Comments	Equivalence status
Timber and Wood Products Operations	Timber Manufactured Products	<p>in Sawmilling and Processing</p> <p>Title changed</p> <p>Revised packaging rules and created specialisations to better reflect outcomes</p> <p>Reduced the number of core units</p> <p>Revised the structure (groups) of the elective units</p> <p>Imported elective units from other training packages</p> <p>Added new units and revised existing units</p>	

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWP30622 Certificate III in Timber Building Products Supply

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Qualification Description

This qualification reflects the role of people who undertake activities related to timber warehousing, transport and distribution and customer sales in the timber wholesale, hardware and timber supply and/or timber manufacturing sectors.

Individuals with this qualification apply a broad range of specialised skills and knowledge in varied contexts that involve processing orders and controlling stocks, transporting products, engaging with and selling to customers, and finding solutions to routine problems as they arise. They also take responsibility for their own organisation and outputs at the workplace.

This qualification has several employment pathways for typical operational environments and job roles in the timber building products supply sector:

- Timber Yard Operator
- Timber Warehouse Storeperson
- Timber Warehouse Coordinator
- Forklift Driver
- Timber Transport & Dispatch Coordinator
- Pickup and Delivery Driver
- Timber Sales Assistant
- Timber Sales Representative
- Customer Service Officer.

This qualification enables specialisations in:

- Warehousing,
- Logistics, or
- Customer Sales.

No licensing, legislative or certification requirements apply to this qualification at the time of publication.

Entry Requirements

There are no entry requirements for this qualification.

Packaging Rules

To achieve this qualification, competency must be demonstrated in:

- 13 units of competency:
 - 3 core units plus
 - 10 elective units.

Elective units must ensure the integrity of the alignment between the qualification and the Australian Qualifications Framework (AQF) and contribute to a valid, industry-supported vocational outcome.

For the award of the *FWP30622 Certificate III in Timber Building Products Supply*, the electives are to be chosen as follows:

- at least 8 units from the electives listed below in Groups A - G
- up to 2 units from any currently endorsed Training Package or accredited course.

Where appropriate, electives may be packaged to provide a qualification with a specialisation.

Packaging for Specialisations

For the award of the *FWP30622 Certificate III in Timber Building Products Supply (Warehousing)*

- at least 5 units must be selected from Group A

For the award of the *FWP306222 Certificate III in Timber Building Products Supply (Logistics)*

- at least 5 units must be selected from Group B

For the award of the *FWP30622 Certificate III in Timber Building Products Supply (Customer Sales)*

- at least 5 units must be selected from Group C.

Core Units

BSBXTW301	Work in a team
FWPCOR3205	Apply safety, health and environmental requirements in forest and wood products operations
FWPCOT3302	Access and provide timber and wood product information

Elective Units

Group A: Warehouse/yard operations

FWPCOT2255	Store materials
FWPCOT2259	Cut materials with a hand-held chainsaw

FWPCOT2261	Process orders and prepare for despatch
FWPCOT2263	Cross cut materials with a fixed saw
FWPCOT2268	Cut timber or engineered wood product to length or dimensions
FWPCOT2271	Pack timber or wood products for despatch
FWPCOT2272	Rack timber or round poles
TLIA0022	Pick and process orders
TLIA0024	Replenish stock
TLID0020	Shift materials safely using manual handling methods
TLIX0013X	Maintain stock control and receivals

Group B: Dispatch, loading & unloading, transport

TLIA0004	Complete receipt and despatch documentation
TLIA0019	Despatch stock
TLID0015	Load and unload goods/cargo
TLIF0009	Ensure the safety of transport activities (Chain of Responsibility)
TLILIC0003	Licence to operate a forklift truck
TLILIC0024	Licence to operate a vehicle loading crane (capacity 10 metre tonnes and above)
TLILIC2014	Licence to drive a light rigid vehicle
TLILIC2015	Licence to drive a medium rigid vehicle

Group C: Customer sales and relationship

BSBOPS202	Engage with customers
BSBOPS304	Deliver and monitor a service to customers
BSBOPS305	Process customer complaints

CPPCMN4008	Read plans, drawings and specifications for residential buildings
FWPCOT3304	Take off material quantities
FWPCOT3305	Interpret and quote from manufactured timber product plans
SIRRRTF001	Balance and secure point-of-sale terminal
SIRXCEG003	Build customer relationships and loyalty
SIRXCEG005	Maintain business to business relationships
SIRXSLS001	Sell to the retail customer

Group D: Inventory / stock control

FWPCOT4211	Monitor stock control procedures
SIRRINV001	Receive and handle retail stock
TLIX0013X	Maintain stock control and receivals

Group E: Timber product knowledge

FWPCOT3310	Prepare timber or related products to meet import/export compliance requirements
FWPCOT3323	Assess wood materials visually
FWPCOT4210	Provide specialised timber product solutions

Group F: Digital systems

BSBTEC201	Use business software applications
SIRWSLS001	Process product and service data
TLIX0004X	Administer inventory systems

Group G: Other general

BSBOPS402	Coordinate business operational plans
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Qualification Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWP30622 Certificate III in Timber Building Products Supply	FWP30621 Certificate III in Timber Building Products Supply	Updated native unit codes and titles that form part of a specialisation New qualification code	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWP30920 Certificate III in Timber Frame or Truss Manufacture

Modification History

Release	Comments
Release 3	This version released with FWP Forest and Wood Products Training Package Version 8.0.
Release 2	This version released with FWP Forest and Wood Products Training Package Version 7.0.
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Qualification Description

This qualification reflects the role of fabricators or manufacturers of timber wall frames or roof and or floor trusses in the timber truss and frame industry. In these roles they are required to communicate and work in teams within the fabrication workplace and safely use specialist equipment to cut timber and assemble wall frames and/or floor or roof trusses.

These individuals apply a broad range of skills and knowledge in varied contexts that involve operating equipment and following established manufacturing processes, finding solutions to routine problems as they arise. They are expected to take responsibility for their own outputs at the workplace.

No licensing, legislative or certification requirements apply to this qualification at the time of publication.

Entry Requirements

There are no entry requirements for this qualification.

Packaging Rules

To achieve this qualification, competency must be demonstrated in:

- 13 units of competency:
 - 3 core units plus
 - 10 elective units.

Elective units must ensure the integrity of the alignment between the qualification and the Australian Qualifications Framework (AQF) and contribute to a valid, industry-supported vocational outcome. The electives are to be chosen as follows:

- at least three units must be selected from Group A
- at least one unit must be selected from Group B
- remaining elective units can be selected from Group A, Group B or Group C and can include up to two units from any currently endorsed Training Package or accredited course.

Core Units

FWPCOT2257	Use hand-held tools
FWPCOT3226	Assess timber for manufacturing potential
FWPTMM321 3	Read and interpret timber truss or wall frame fabrication plans

Elective Units

Group A

BSBXTW301	Work in a team
FWPCOR2208	Communicate and interact effectively in the forest and wood products industry
FWPCOR2210	Follow workplace health and safety policies and procedures in forest and wood products operations
FWPCOT3322	Apply quality and product care procedures in forest and wood products operations
TLID0020	Shift materials safely using manual handling methods

Group B

FWPCOT3308	Assemble timber wall frames
FWPCOT3309	Assemble timber roof trusses
FWPTMM321 4	Assemble timber floor trusses

Group C

BSBINS201	Process and maintain workplace information
CPCCOM1015	Carry out measurements and calculations
FWPCOT2206	Stack and bind material
FWPCOT2255	Store materials
FWPCOT2268	Cut timber or engineered wood product to length or dimensions
FWPCOT3331	Cut material using CNC sizing machines
FWPTMM2205	Cut material to length and angles
MSMPCI102	Apply effective work practices
MSMSUP390	Use structured problem-solving tools
TLID0016	Operate a forklift

Qualification Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWP30920 Certificate III in Timber Truss or Frame Manufacture Release 3	FWP30920 Certificate III in Timber Truss or Frame Manufacture Release 2	Updated native unit code and title in the elective list	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWP31021 Certificate III in Saw Technology

Modification History

Release	Comments
Release 2	This version released with FWP Forest and Wood Products Training Package Version 8.0.
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Qualification Description

This qualification reflects the job role of Saw Technicians who service, maintain and align saw blades, knives and guides for timber sawmilling machines and other applications. Saw Technicians may also inspect, test, maintain and troubleshoot mechanical components on sawing machine centres to achieve sawing production rates and product tolerances.

The elective groups and units of competency within this qualification can provide Saw Technicians with two pathway options. Saw Technicians can use the qualification to develop skills in performing general saw servicing operations or develop skills in saw maintenance engineering roles.

No licensing, legislative or certification requirements apply to this qualification at the time of publication.

Entry Requirements

There are no entry requirements for this qualification.

Packaging Rules

To achieve this qualification, competency must be demonstrated in:

- 26 units of competency:
 - 7 core units plus
 - 19 elective units.

Elective units must ensure the integrity of the alignment between the qualification and the Australian Qualifications Framework (AQF) and contribute to a valid, industry-supported vocational outcome. The electives are to be chosen as follows:

- all 4 units must be selected from either Group A or Group B

- a minimum of 8 units must be selected from Group C
- remaining units can be selected from Group C and/or Group D and can include up to 2 units from any currently endorsed Training Package or accredited course.

Elective units must be relevant to work undertaken in the sawmilling and processing sector of the industry.

Core Units

BSBTWK201	Work effectively with others
FWPCOT3279	Assess and maintain saw technology tools
FWPCOT3283	Sharpen and position blades or knives in chipper, canter and reducer
FWPCOT3286	Identify levelling and tensioning requirements for saw blades
FWPCOT3290	Apply knowledge of timber properties, sawmill operations and sawmilling equipment
FWPSAW3247	Replace tungsten tips
FWPSAW3251	Apply principles of blade design to sawing procedures

Elective Units

An asterisk (*) next to the unit code indicates that there are prerequisite requirements which must be met when packaging the qualification. Please refer to the Prerequisite requirements table for details.

Group A – General electives (service operations)

FWPCOR2206	Work effectively in the forest and wood products industry
FWPCOR2208	Communicate and interact effectively in the forest and wood products industry
FWPCOR3205	Apply safety, health and environmental requirements in forest and wood products operations
MEM30032	Produce basic engineering drawings

Group B – General electives (maintenance engineering)

MEM09002 *	Interpret technical drawing
MEM13015	Work safely and effectively in manufacturing and engineering
MEM14006 *	Plan work activities
MEM16006 *	Organise and communicate information

Group C – Saw technology (service operations)

Servicing saw blades and guides

FWPCOT3280	Replace saw blades, knives and guides
FWPCOT3282	Assess and maintain saw blade and sawing machine performance
FWPCOT3287	Operate CNC equipment for grinding, tensioning and levelling saw blades
FWPCOT3294	Swage and shape saw blades
FWPSAW3232	Sharpen band saw blades
FWPSAW3233	Sharpen circular saw blades
FWPSAW3235	Recondition saw guides
FWPSAW3236	Sharpen tipped circular saw blades
FWPSAW3237	Level and tension circular saw blades
FWPSAW3238	Replace Stellite tips
FWPSAW3239	Assess and maintain wide band saw blades

Servicing cutters for timber processing

FWPCOT3276	Sharpen cutters using a straight knife grinder
FWPCOT3277	Sharpen cutters in head using a profile knife grinder
FWPCOT3278	Sharpen cutters in head using a straight knife grinder
FWPCOT3281	Manufacture profile cutters

FWPCOT3295	Assess and maintain cutter performance
FWPCOT3298	Produce templates

Servicing sawing machine

FWPSAW3240	Assess and maintain band saw wheels
FWPSAW3244	Align sawing production systems

Other services

FWPCOT2269	Operate and maintain a table saw
FWPCOT3271	Hand sharpen knives and blades for commercial and domestic cutting services
FWPSAW3234	File and set saw blades for hand saws and circular saws

Group D – Saw technology (maintenance engineering)

Mechanical maintenance

FWPCOT3335	Conduct operator level equipment maintenance in forest and wood products industry
MEM11011 *	Undertake manual handling
MEM12023 *	Perform engineering measurements
MEM12024 *	Perform computations
MEM18001 *	Use hand tools
MEM18002 *	Use power tools/hand held operations
MEM18055 *	Dismantle, replace and assemble engineering components

Welding

FWPSAW3245	Join band saw blades
MEM05006 *	Perform brazing and/or silver soldering

MEM05049 *	Perform routine gas tungsten arc welding
MEM05050 *	Perform routine gas metal arc welding

Quality processes

FWPCOT3291	Apply principles of timber and process optimisation in sawmill operations
FWPCOT3327	Contribute to energy efficiency in the forest and wood products industry
FWPCOT3349	Assess timber against quality requirements and specifications
MSMSUP390	Use structured problem-solving tools
MSS402042	Apply 5S procedures
MSS404056	Apply statistics to operational processes

Prerequisite requirements

Units listed in the *Prerequisite requirement* column that have their own prerequisite requirements are shown with an asterisk (*)

Unit of competency	Prerequisite requirement
MEM05006 Perform brazing and/or silver soldering	MEM11011 Undertake manual handling * MEM13015 Work safely and effectively in manufacturing and engineering MEM16006 Organise and communicate information *
MEM05049 Perform routine gas tungsten arc welding	MEM11011 Undertake manual handling * MEM13015 Work safely and effectively in manufacturing and engineering MEM16006 Organise and communicate information *
MEM05050 Perform routine gas metal arc welding	MEM11011 Undertake manual handling * MEM13015 Work safely and effectively in manufacturing and engineering MEM16006 Organise and communicate

	information *
MEM09002 Interpret technical drawing	MEM12023 Perform engineering measurements * MEM12024 Perform computations * MEM13015 Work safely and effectively in manufacturing and engineering MEM16006 Organise and communicate information *
MEM11011 Undertake manual handling	MEM13015 Work safely and effectively in manufacturing and engineering MEM16006 Organise and communicate information *
MEM12023 Perform engineering measurements	MEM13015 Work safely and effectively in manufacturing and engineering MEM16006 Organise and communicate information *
MEM12024 Perform computations	MEM13015 Work safely and effectively in manufacturing and engineering MEM16006 Organise and communicate information *
MEM14006 Plan work activities	MEM13015 Work safely and effectively in manufacturing and engineering MEM16006 Organise and communicate information *
MEM16006 Organise and communicate information	MEM13015 Work safely and effectively in manufacturing and engineering
MEM18001 Use hand tools	MEM11011 Undertake manual handling MEM13015 Work safely and effectively in manufacturing and engineering MEM16006 Organise and communicate information*
MEM18002 Use power tools/hand held operations	MEM11011 Undertake manual handling MEM13015 Work safely and effectively in manufacturing and engineering MEM16006 Organise and communicate information *

MEM18055 Dismantle, replace and assemble engineering components	MEM09002 Interpret technical drawing * MEM11011 Undertake manual handling * MEM12023 Perform engineering measurements * MEM13015 Work safely and effectively in manufacturing and engineering MEM16006 Organise and communicate information * MEM18001 Use hand tools * MEM18002 Use power tools/hand held operations *
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Qualification Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWP31021 Certificate III in Saw Technology Release 2	FWP31021 Certificate III in Saw Technology Release 1	Added a unit and updated a native unit code in the elective list	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWP31121 Certificate III in Wood Machining

Modification History

Release	Comments
Release 2	This version released with FWP Forest and Wood Products Training Package Version 8.0.
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Qualification Description

This qualification reflects the job role of Wood Machinists who work in a sawmill or other timber processing environment and set up, operate and maintain machines such as large automated planers/moulders and saws to cut, plane and profile timber to specifications. This involves interpreting work orders to establish job requirements, selecting and setting up knives and cutters to machinery, aligning knives, operating machines to cut, plane and profile timber, and cleaning and maintaining machines and equipment.

No licensing, legislative or certification requirements apply to this qualification at the time of publication.

Entry Requirements

There are no entry requirements for this qualification.

Packaging Rules

To achieve this qualification, competency must be demonstrated in:

- 27 units of competency:
 - 8 core units plus
 - 19 elective units.

Elective units must ensure the integrity of the alignment between the qualification and the Australian Qualifications Framework (AQF) and contribute to a valid, industry-supported vocational outcome. The electives are to be chosen as follows:

- a minimum of 8 units must be selected from Group A
- a minimum of 4 units must be selected from Group B
- remaining units can be selected from Group A, B, C and/or D and can include up to 2 units from any currently endorsed Training Package or accredited course.

Elective units must be relevant to work undertaken in the sawmilling and processing sector of the industry.

Core Units

BSBTWK201	Work effectively with others
FWPCOR2206	Work effectively in the forest and wood products industry
FWPCOR2208	Communicate and interact effectively in the forest and wood products industry
FWPCOR3205	Apply safety, health and environmental requirements in forest and wood products operations
FWPCOT2257	Use hand-held tools
FWPCOT3290	Apply knowledge of timber properties, sawmill operations and sawmilling equipment
FWPCOT3322	Apply quality and product care procedures in forest and wood products operations
MSFDN4003	Produce patterns and templates

Elective Units

An asterisk (*) next to the unit code indicates that there are prerequisite requirements which must be met when packaging the qualification. Please refer to the Prerequisite requirements table for details.

Group A – Operating timber processing machines

FWPCOT2244	Operate and maintain a thicknesser
FWPCOT2269	Operate and maintain a table saw
FWPCOT3272	Set up and run multi-head moulder/planer to produce simple profiles
FWPCOT3273	Set up and run multi-head moulder to produce complex profiles
FWPCOT3274	Cut timber products using high-speed optimiser
FWPCOT3275	Set up, operate and maintain end matching machines

FWPCOT3289	Load and prove operating program for CNC machine
FWPCOT3332	Machine timber or engineered wood products using CNC machining and processing centres
FWPCOT3336	Coordinate set up and operation of timber finger jointing line
FWPCOT3337	Operate timber finger jointing line
FWPSAW3255	Operate conventional log breakdown saw line
MSFFM3032	Set up, operate and maintain sawing machines
MSFFM3037	Set up, operate and maintain routing and shaping machines

Group B – Grinding and maintaining cutting tools

FWPCOT3271	Hand sharpen knives and blades for commercial and domestic cutting services
FWPCOT3276	Sharpen cutters using a straight knife grinder
FWPCOT3277	Sharpen cutters in head using a profile knife grinder
FWPCOT3278	Sharpen cutters in head using a straight knife grinder
FWPCOT3280	Replace saw blades, knives and guides
FWPCOT3281	Manufacture profile cutters
FWPCOT3283	Sharpen and position blades or knives in chipper, canter and reducer
FWPCOT3286	Identify levelling and tensioning requirements for saw blades
FWPCOT3295	Assess and maintain cutter performance
FWPCOT3298	Produce templates
FWPSAW3233	Sharpen circular saw blades
FWPSAW3237	Level and tension circular saw blades
FWPSAW3247	Replace tungsten tips

FWPSAW3251	Apply principles of blade design to sawing procedures
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Group C – Grading and testing timber

FWPCOT2246	Appearance grade hardwood sawn and milled products
FWPCOT2249	Visually stress grade hardwood
FWPCOT2250	Visually stress grade softwood
FWPCOT2251	Visually stress grade cypress
FWPCOT3292	Calibrate and maintain scanning equipment used in sawmilling operations
FWPCOT3293	Use scanning equipment for timber grading
FWPCOT3349	Assess timber against quality requirements and specifications
FWPTMM421 3	Test finger jointed timber
FWPTMM421 4	Test laminated wood product
MSL973022	Conduct laboratory-based acceptance tests for construction materials
MSMSUP292	Sample and test materials and product

Group D – General electives

FWPCOT2243	Tail out timber product and waste material
FWPCOT3291	Apply principles of timber and process optimisation in sawmill operations
FWPCOT3304	Take off material quantities
FWPCOT3307	Create drawings using computer aided design software
FWPCOT3327	Contribute to energy efficiency in the forest and wood products industry
FWPCOT3335	Conduct operator level equipment maintenance in forest

	and wood products industry
MSMSUP390	Use structured problem-solving tools
MSS402042	Apply 5S procedures
MSS404056	Apply statistics to operational processes

Qualification Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWP31121 Certificate III in Wood Machining Release 2	FWP31121 Certificate III in Wood Machining Release 1	Added units and updated native unit codes and titles in the elective list	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWP31220 Certificate III in Timber Systems Design

Modification History

Release	Comments
Release 2	This version released with FWP Forest and Wood Products Training Package Version 7.0.
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Qualification Description

This qualification reflects the role of people who work as timber systems designers or estimators in the timber truss and frame industry. In these roles they are required to create drawings and produce estimates of material quantities and costs for timber frames or trusses from architectural plans and drawings and communicate effectively with customers and colleagues.

No licensing, legislative or certification requirements apply to this qualification at the time of publication.

Entry Requirements

There are no entry requirements for this qualification.

Packaging Rules

To achieve this qualification, competency must be demonstrated in:

- 13 units of competency:
 - 3 core units plus
 - 10 elective units.

Elective units must ensure the integrity of the qualification's Australian Qualification Framework (AQF) alignment and contribute to a valid, industry-supported vocational outcome. The electives are to be chosen as follows:

- at least four units must be selected from Group A
- remaining elective units may be selected from Group A or Group B and up to two units may be selected from any currently endorsed Training Package or accredited course.

Core Units

FWPCOT3303	Prepare sketches and drawings
FWPCOT3304	Take off material quantities
FWPTMM321 5	Work effectively in the timber systems design industry

Elective Units

Group A

BSBXTW301	Work in a team
CPPCMN4008	Read plans, drawings and specifications for residential buildings
FWPCOR2208	Communicate and interact effectively in the forest and wood products industry
FWPCOR2210	Follow workplace health and safety policies and procedures in forest and wood products operations
FWPCOT3305	Interpret and quote from manufactured timber product plans
FWPCOT3307	Create drawings using computer aided design software

Group B

BSBINS302	Organise workplace information
BSBOPS304	Deliver and monitor a service to customers
BSBTEC201	Use business software applications
CPCCOM1015	Carry out measurements and calculations
FSKLRG011	Use routine strategies for work-related learning
FWPCOT3302	Access and provide timber and wood product information
MSMSUP200	Achieve work outcomes
MSMSUP390	Use structured problem-solving tools

Qualification Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWP31220 Certificate III in Timber Systems Design Release 2	FWP31220 Certificate III in Timber Systems Design Release 1	Updated unit codes	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWP40121 Certificate IV in Forest Operations

Modification History

Release	Comments
Release 3	This version released with FWP Forest and Wood Products Training Package Version 9.0.
Release 2	This version released with FWP Forest and Wood Products Training Package Version 8.0.
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Qualification Description

This qualification reflects the job of people who work as managers or crew leaders in forestry contractor businesses.

Individuals with this qualification apply a broad range of specialised skills and knowledge in forest operations management. This includes establishing operational plans for forestry operations and supervising teams involved in implementing operational plans in line with the requirements of a forest management organisation.

No licensing, legislative or certification requirements apply to this qualification at the time of publication.

Entry Requirements

There are no entry requirements for this qualification.

Packaging Rules

To achieve this qualification, competency must be demonstrated in:

- 12 units of competency:
 - 2 core units plus
 - 10 elective units.

Elective units must ensure the integrity of the alignment between the qualification and the Australian Qualifications Framework (AQF) and contribute to a valid, industry-supported vocational outcome. The electives are to be chosen as follows:

- at least 3 units must be selected from Group A

- at least 3 units must be selected from Group B
- remaining units can be selected from Groups A, B or C and can include up to 2 units from any currently endorsed Training Package or accredited course.

Core Units

FWPCOR4204	Monitor safety, health and environmental requirements in forest and wood products operations
FWPCOR4205	Monitor and improve forestry operations

Elective Units

Group A: Management Systems

Safety, Environment and Quality Management

AHCOCM401	Protect places of cultural significance
AHCMOM402	Supervise maintenance of property, machinery and equipment
FWPCOR2210	Follow workplace health and safety policies and procedures in forest and wood products operations
FWPCOR3205	Apply safety, health and environmental requirements in forest and wood products operations
FWPCOT4212	Implement environmental management practices to a forestry operation site
FWPCOT4213	Monitor and manage product and service quality in the forest and wood products industry
FWPCOT4217 *	Apply a safety mindset in forestry operations
FWPCOT4225	Apply principles of pneumatics and hydraulics to analyse potential equipment failures
FWPHAR4206	Implement environmental management practices in timber harvesting operations
HLTAID011	Provide First Aid
HLTAID014	Provide advanced First Aid
HLTAID016	Manage first aid services and resources

Business and People Management

FWPCOT4218	Manage business operations of a forestry contractor business
FWPCOT4219	Manage people practices in a forestry contractor business

Group B: Forest Operations Management

Silviculture

AHCCHM404	Develop procedures to minimise risks in the use of chemicals
AHCCHM405	Plan and implement a chemical use program
FWPCOT3351	Fell trees manually (advanced)
FWPSIL4001	Plan for and coordinate forest site preparation operations
FWPSIL4002	Plan for and coordinate thinning operations in a native forest or plantation
FWPSIL4003	Plan for and coordinate stem improvement operations
FWPSIL4004	Plan for and coordinate forest establishment operations
FWPSIL4005	Plan for and coordinate a stand health and nutrition program
FWPSIL4006	Plan for and coordinate a pests and diseases assessment
FWPSIL4007	Plan for and coordinate a regeneration rate assessment
FWPSIL4008	Plan for and coordinate a forest site assessment
FWPSIL4009	Plan for and coordinate tending operations in a native forest or plantation

Timber Harvesting

FWPFRM5007	Process and interpret harvester and forwarder optimisation data
FWPHAR3209	Harvest trees manually (advanced)
FWPHAR4207	Conduct a wood volume and yield assessment
FWPHAR4208	Plan for and coordinate fire salvage operations

FWPHAR4209	Plan for and coordinate forest harvesting operations
FWPHAR4210	Plan for and coordinate log recovery (hook tender)

Log Haulage

FWPCOT4220	Plan for and coordinate log loading and haulage operations
TLIF0014	Monitor the safety of transport activities (Chain of Responsibility)
TLIF4064	Manage fatigue management policy and procedures

Site Access and Roding

FWPCOT4214	Plan for and coordinate quarry operations
FWPCOT4215	Plan for and coordinate road construction and maintenance
FWPCOT4216	Plan for and coordinate construction of log landings and snig tracks

Fire Control

FWPFIR3001	Assess fire risk
FWPFIR3002	Apply communication protocols during post-bushfire vegetation clearing and clean-up operations
FWPFIR4001	Conduct tree hazard assessment post-fire
PUAFIR204 *	Respond to wildfire
PUAFIR210	Prevent injury
PUAFIR303 *	Suppress wildfire
PUAFIR402 *	Conduct simple prescribed burns
PUAFIR407	Interpret and analyse fire weather information
PUAFIR417 *	Supervise machinery use in wildfire operations
PUAFIR506 *	Conduct complex prescribed burns

Group C: Other

Stakeholder communication

BSBPMG634	Facilitate stakeholder engagement
FWPCOT3346	Communicate effectively with general public or stakeholders concerned about forest practices

Personal Development

BSBPEF402	Develop personal work priorities
FWPCOT5215	Apply innovative thinking to support forestry best practice

Prerequisite requirements

Units listed in the *Prerequisite requirement* column that have their own prerequisite requirements are shown with an asterisk (*)

Unit of competency	Prerequisite requirement
FWPCOT4217 Apply a safety mindset in forestry operations	FWPCOR3205 Apply safety, health and environmental requirements in forest and wood products operations or FWPCOR2210 Follow workplace health and safety policies and procedures in forest and wood products operations
PUAFIR204 Respond to wildfire	PUAFIR210 Prevent injury
PUAFIR303 Suppress wildfire	PUAFIR204 Respond to wildfire *
PUAFIR402 Conduct simple prescribed burns	PUAFIR303 Suppress wildfire *
PUAFIR417 Supervise use of machinery in wildfire operations	PUAFIR303 Suppress wildfire *
PUAFIR506 Conduct complex prescribed burns	PUAFIR303 Suppress wildfire *

Qualification Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWP40121 Certificate IV in Forest Operations Release 3	FWP40121 Certificate IV in Forest Operations Release 2	New code for elective unit	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWP40222 Certificate IV in Timber and Wood Products Operations

Modification History

Release	Comments
Release 2	This version released with FWP Forest and Wood Products Training Package Version 8.1.
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Qualification Description

This qualification reflects the skills and knowledge of people who work as production supervisors and technicians in a timber or wood products production facility.

Individuals with this qualification apply a broad range of advanced technical and supervisory skills. These include knowledge of timber or wood products production processes and the skills required to manage technical operations, address production issues, maintain individual and team performance, maintain equipment for stable and continuous operations, monitor health and safety, quality and environmental protection requirements in timber or wood products production facilities.

At this level, individuals are expected to work autonomously, exercise judgement in making workplace decisions, take responsibility for their own outputs at the workplace and supervise the work of others.

No licensing, legislative or certification requirements apply to this qualification at the time of publication.

Entry Requirements

There are no entry requirements for this qualification.

Packaging Rules

To achieve this qualification, competency must be demonstrated in:

- 12 units of competency consisting of 12 elective units.

Elective units must ensure the integrity of the alignment between the qualification and the Australian Qualifications Framework (AQF) and contribute to a valid, industry supported vocational outcome. The electives are to be chosen as follows:

- at least 1 unit from the electives in Group A
- at least 3 units from the electives in Group B
- at least 3 units from the electives in Group C
- up to 2 units from the electives in Group E
- remaining units can be selected from Groups A to F and can include up to 2 units from any currently endorsed Training Package or accredited course.

Elective Units

An asterisk (*) next to the unit code indicates that there are prerequisite requirements which must be met when packaging the qualification. Please refer to the Prerequisite requirements table for details.

Group A: Safety

BSBWHS515	Lead initial response to and investigate WHS incidents
FWPCOR4204	Monitor safety, health and environmental requirements in forest and wood products operations
HLTAID016	Manage first aid services and resources
TLIF0014	Monitor the safety of transport activities (Chain of Responsibility)

Group B: Quality systems

Competitive systems and practices

BSBSTR402	Implement continuous improvement
FWPCOT4213	Monitor and manage product and service quality in the forest and wood products industry
MSS402042	Apply 5S procedures
MSS403003	Contribute to improvements in competitive systems and practices
MSS403012	Facilitate change in a competitive systems and practices environment
MSS403022	Facilitate a Just in Time system
MSS404056	Apply statistics to operational processes
MSS405055	Manage application of Six Sigma for process control and improvement

MSS407026	Lead a process to determine and solve root cause for a complex problem
MSS407029	Improve visual management in the workplace

Chain of Custody

FWPCOT4223	Assess requirements of chain of custody certification scheme for forest and wood products
FWPCOT4224	Conduct internal audit of chain of custody certification for forest and wood products

Plant and equipment maintenance

AHCMOM402	Supervise maintenance of property, machinery and equipment
FWPCOT3282	Assess and maintain saw blade and sawing machine performance
FWPCOT3295	Assess and maintain cutter performance
FWPCOT4225	Apply principles of pneumatics and hydraulics to analyse potential equipment failures

Grading and testing

FWPTMM421 3	Test finger jointed timber
FWPTMM421 4	Test laminated wood product
MSL973022	Conduct laboratory-based acceptance tests for construction materials

Group C: Operations management

Timber production optimisation

FWPCOT3291	Apply principles of timber and process optimisation in sawmill operations
FWPSAW4206	Monitor output timber for optimum volume and value recovery
FWPSAW4207	Optimise timber production for volume and value

	recovery
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Production supervision

FWPCOT4221	Plan for and supervise log yard operations
FWPCOT4222	Plan for and supervise timber treatment plant operations
FWPSAW4208	Plan for and coordinate timber kiln drying operations
FWPSAW4209	Plan for and supervise log processing operations
FWPSAW4210	Plan for and supervise timber dry mill operations
FWPTMM421 5	Plan for and coordinate timber product assembly
FWPTMM421 6	Plan for and supervise engineered wood product operations

Operational planning

AHCWRK513	Write and present reports
BSBOPS402	Coordinate business operational plans
BSBOPS403	Apply business risk management processes
BSBPMG427	Apply project procurement procedures
FWPCOT3338	Identify glues and gluing systems used in production of wood products
FWPCOT4211	Monitor stock control procedures
FWPTMM421 2	Calculate production costs
MEM30021	Prepare a simple production schedule
TLIR4002	Source goods/services and evaluate contractors

Waste Management

CPPWMT4003	Implement waste management plans
CPPWMT4010	Assess and advise on waste avoidance options

Group D: Prefabricated timber building systems

FWPTMM5209	Determine prefabricated timber building systems designs for compliance, manufacture and installation
FWPTMM5210	Verify compliance and conformance of prefabricated timber building systems during manufacture

Group E: Leadership and personal effectiveness

BSBHRM413	Support the learning and development of teams and individuals
BSBLDR413	Lead effective workplace relationships
BSBPEF301	Organise personal work priorities
BSBXCM401	Apply communication strategies in the workplace
BSBXTW401	Lead and facilitate a team

Group F: Training and assessment

TAEDEL311	Provide work skill instruction
TAEDEL411	Facilitate vocational training
TAEDEL412	Facilitate workplace-based learning
TAEDEL414	Mentor in the workplace
TAEDES412	Design and develop learning programs

Qualification Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWP40222 Certificate IV in Timber and Wood Products Operations Release 2	FWP40222 Certificate IV in Timber and Wood Products Operations Release 1	Revised title of elective units	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWP40420 Certificate IV in Timber Systems Design

Modification History

Release	Comments
Release 2	This version released with FWP Forest and Wood Products Training Package Version 7.0.
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Qualification Description

This qualification reflects the role of people who work as timber systems designers, estimators or detailers in the timber truss and frame industry. In these roles they are required to read architectural plans to calculate material quantities and costs, and produce building code compliant timber system wall and/or truss fabrication plans and documents.

No licensing, legislative or certification requirements apply to this qualification at the time of publication.

Entry Requirements

There are no entry requirements for this qualification.

Packaging Rules

To achieve this qualification, competency must be demonstrated in:

- 15 units of competency:
 - 6 core units plus
 - 9 elective units.

Elective units must ensure the integrity of the qualification's Australian Qualification Framework (AQF) alignment and contribute to a valid, industry-supported vocational outcome. The electives are to be chosen as follows:

- at least five units must be selected from Group A
- remaining elective units may be selected from Group A or Group B and up to two units may be selected from any currently endorsed Training Package or accredited course.

Core Units

BSBXTW301	Work in a team
CPPCMN4008	Read plans, drawings and specifications for residential buildings
FWPCOT3303	Prepare sketches and drawings
FWPCOT3304	Take off material quantities
FWPCOT3305	Interpret and quote from manufactured timber product plans
FWPTMM321 5	Work effectively in the timber systems design industry

Elective Units

Group A

CPCCCBC4001	Apply building codes and standards to the construction process for Class 1 and 10 buildings
FWPCOT3219	Produce standard truss or frame plans and details using computers
FWPCOT4201	Produce complex truss and frame plans and details using computers
FWPCOT4209	Design timber structures
FWPTMM420 9	Interpret details of timber roof trusses to inform design of plans and production documents
FWPTMM421 0	Interpret details of timber floor systems to inform design of plans and production documents
FWPTMM421 1	Interpret details of timber wall frames to inform design of plans and production documents

Group B

AHCWRK509	Provide specialist advice to clients
BSBOPS404	Implement customer service strategies
CPCCCBC4024	Resolve business disputes

CPCCOM1015	Carry out measurements and calculations
FWPCOR2210	Follow workplace health and safety policies and procedures in forest and wood products operations
FWPCOT3307	Create drawings using computer aided design software
MSMSUP390	Use structured problem-solving tools
TAEDEL301	Provide work skill instruction
TLIJ0003	Apply quality systems

Qualification Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWP40420 Certificate IV in Timber Systems Design Release 2	FWP40420 Certificate IV in Timber Systems Design Release 1	Updated unit codes	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWP50121 Diploma of Forest Operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Qualification Description

This qualification reflects the job of early-career foresters and forestry field officers with specialist roles in forest operations management and forest resource management.

Individuals with this qualification apply a broad range of advanced technical and management skills and forest knowledge to inform and contribute to forest management plans and manage forestry operations. This includes using industry-specific software, modelling and analysing forestry data and optimising forest management practice to improve production processes and wood flow outcomes.

At this level, individuals are expected to apply autonomy and judgement. They take responsibility for their own outputs at the workplace.

This qualification enables specialisations in:

- Forest Operations Management or
- Forest Resource Management.

No licensing, legislative or certification requirements apply to this qualification at the time of publication.

Entry Requirements

There are no entry requirements for this qualification.

Packaging Rules

To achieve this qualification, competency must be demonstrated in:

- 12 units of competency consisting of 12 elective units.

Elective units must ensure the integrity of the alignment between the qualification and Australian Qualification Framework (AQF) and contribute to a valid, industry-supported vocational outcome. Electives can be chosen to provide a general qualification or a qualification with a specialisation.

For the award of the *FWP50121 Diploma of Forest Operations* choose:

- at least 9 units from the electives in Groups A to D
- up to 2 units from Group E
- up to 1 unit from the remaining electives in Groups A to D or from any currently endorsed Training Package or accredited course.

For the award of the *FWP50121 Diploma of Forest Operations (Forest Operations Management)* choose:

- at least 6 units from Group A
- up to 2 units from Group E
- remaining units from Groups A to D and can include up to 1 unit from any currently endorsed Training Package or accredited course.

For the award of the *FWP50121 Diploma of Forest Operations (Forest Resource Management)* choose:

- at least 6 units from Group C
- up to 2 units from Group E
- remaining units from Groups A to D and can include up to 1 unit from any currently endorsed Training Package or accredited course.

Where two specialisations are completed, the award of the qualification would read (for example), *Diploma of Forest Operations (Forest Operations Management, Forest Resource Management)*.

Elective Units

An asterisk (*) next to the unit code indicates that there are prerequisite requirements which must be met when packaging the qualification. Please refer to the Prerequisite requirements table for details.

Group A: Forest Operations Management

Management Systems

BSBOPS403	Apply business risk management processes
BSBSTR402	Implement continuous improvement
BSBWHS515	Lead initial response to and investigate WHS incidents
FWPCOR4204	Monitor safety, health and environmental requirements in forest and wood products operations
FWPCOT5210	Contribute to establishment and implementation of forest management systems
FWPCOT5211	Implement forest management certification scheme
FWPCOT5212	Implement workplace sustainability practices in the forest and wood products industry

Operational Planning and Contract Management

AHCWRK513	Write and present reports
BSBFIN501	Manage budgets and financial plans
BSBOPS402	Coordinate business operational plans
FWPFOM5001	Contribute to and implement a forest establishment plan
FWPFOM5002	Contribute to and implement a forest roading operational plan
FWPFOM5003	Contribute to and implement a forest harvesting plan
FWPFOM5004	Contribute to and implement a forest regeneration plan
FWPFOM5005	Contribute to and implement a biohazard contingency plan
FWPFOM5006	Implement practices to maximise value from wood residues
FWPFOM5007	Contribute to and implement a silviculture regime for a plantation
FWPFOM5008	Contribute to and implement a silviculture regime for native forest
FWPFOM5010	Apply principles of forest science to optimise forest management practices
FWPFOM5011	Assist with calculating costs and production targets for forestry operations
PSPPCM007	Manage contracts

Supply chain

FWPFOM5009	Contribute to management and monitoring of forestry supply chains
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Group B: Fire Management

PUAFIR204*	Respond to wildfire
PUAFIR210	Prevent injury
PUAFIR303*	Suppress wildfire

PUAFIR406*	Develop simple prescribed burn plans
PUAFIR407	Interpret and analyse fire weather information
PUAFIR417*	Supervise machinery use in wildfire operations
PUAFIR501*	Conduct fire investigation and analysis activities
PUAFIR509	Implement prevention strategies
PUAFIR515*	Develop complex prescribed burn plans
PUALAW001	Protect and preserve incident scene
PUAOPE016*	Manage a multi-team sector

Group C: Forest Resource Management

Forest Valuation and Growth Modelling

FWPFRM5004	Contribute to the planning and conduct of forest valuation
FWPFRM5005	Contribute to selection and application of forest growth models

Forest Inventory

CPPSSI4038	Prepare and present GIS data
FWPFRM5001	Interpret and use image data in forestry planning and management
FWPFRM5002	Source information on the contribution of forestry to carbon reduction strategies
FWPFRM5003	Contribute to and implement a forest inventory program
FWPFRM5007	Process and interpret harvester and forwarder optimisation data
FWPFRM5008	Create digital forestry operational map
FWPFRM5009	Create cutting instruction files for forestry harvesters
FWPFRM5010	Plan unmanned aerial vehicle (UAV) collection of forestry data

FWPFRM5011	Quality assure forestry data acquisition by unmanned aerial vehicle (UAV)
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Biodiversity management

AHCECR502	Conduct biological surveys
AHCNRM507	Manipulate and analyse data within geographic information systems
AHCWRK508	Interpret legislation
FWPFRM5006	Analyse ecology of commercial native forests and plantations
MSS027014	Apply environmental legislation, codes and standards

Group D: Stakeholder Engagement and Innovation

FWPCOT5213	Contribute to and implement a community engagement plan
FWPCOT5214	Communicate forestry and forest science with stakeholders and the community
FWPCOT5215	Apply innovative thinking to support forestry best practice

Group E: Leadership and Personal Effectiveness

BSBHRM413	Support the learning and development of teams and individuals
BSBLDR413	Lead effective workplace relationships
BSBLDR414	Lead team effectiveness
BSBPEF301	Organise personal work priorities

Prerequisite requirements

Units listed in the *Prerequisite requirement* column that have their own prerequisite requirements are shown with an asterisk (*)

Unit of competency	Prerequisite requirement
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PUAFIR204 Respond to wildfire	PUAFIR210 Prevent injury
PUAFIR303 Suppress wildfire	PUAFIR204* Respond to wildfire
PUAFIR406 Develop simple prescribed burn plans	PUAFIR303* Suppress wildfire
PUAFIR417 Supervise machinery use in wildfire operations	PUAFIR303* Suppress wildfire
PUAFIR501 Conduct fire investigation and analysis activities	PUALAW001 Protect and preserve incident scene
PUAFIR515 Develop complex prescribed burn plans	PUAFIR303* Suppress wildfire
PUAOPE016 Manage a multi-team sector	One of the following: PUAFIR302* Suppress urban fire PUAFIR303* Suppress wildfire

Qualification Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWP50121 Diploma of Forest Operations	FWP50116 Diploma of Forest and Forest Products	Title changed Revised packaging rules and created specialisations to better reflect outcomes Total number of units reduced by 3 units Removed core unit requirements Revised the structure (groups) of the elective units Revised the structure (groups) of the elective	Not equivalent

Code and title current version	Code and title previous version	Comments	Equivalence status
		units Added new units and revised existing units	

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSS00068 Entry into a Saw Technician Role Skill Set

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Description

This skill set is designed to equip individuals with the technical skills and knowledge required to begin work as a Saw Technician. It covers how to sharpen, position, assess and maintain the cutting performance of sawing blades or knives and how to replace worn or damaged blades, knives and guides on circular saws, band saws, chippers and canterers in order to maintain quality production output. It includes how to replace worn or damaged tungsten tips and how to determine the required levelling and tensioning for circular, narrow and wide band saw blades removed from a sawing machine. The skills and knowledge for shutting down equipment and maintaining saw technology tools are also included.

Pathways Information

These units of competency provide credit towards *FWP31021 Certificate III in Saw Technology* from the FWP Forest and Wood Products Training Package.

Licensing/Regulatory Information

No licensing, legislative or certification requirements apply to this skill set at the time of publication.

Skill Set Requirements

- FWPCOT3279 Assess and maintain saw technology tools
- FWPCOT3280 Replace saw blades, knives and guides
- FWPCOT3282 Assess and maintain saw blade and sawing machine performance
- FWPCOT3283 Sharpen and position blades or knives in chipper, canter and reducer
- FWPCOT3286 Identify levelling and tensioning requirements for saw blades
- FWPCOT3335 Conduct operator level equipment maintenance in forest and wood products industry
- FWPSAW3235 Recondition saw guides
- FWPSAW3244 Align sawing production systems
- FWPSAW3247 Replace tungsten tips

Target Group

This skill set is for individuals, production personnel and various tradespeople interested in beginning a Saw Technician career in the forest and wood products industry.

Suggested words for Statement of Attainment

These competencies from the FWP Forest and Wood Products Training Package meet the industry requirements for beginning a Saw Technician career in the forest and wood products industry.

FWPSS00069 Entry into a Wood Machinist Role Skill Set

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Description

This skill set is designed to equip individuals with the technical skills and knowledge required to begin work as a Wood Machinist. It covers how to assess timber supplied for machining operations against quality requirements and specifications, how to cut timber or engineered wood product with a table saw, and how to clear timber products and waste material from a sawing or machining operation. It includes how to operate a thicknesser to dress timber and how to diagnose and correct cutter performance. The skills and knowledge required for shutting down, maintaining and conducting routine fault repairs on wood machining equipment are also covered.

Pathways Information

These units of competency provide credit towards *FWP31122 Certificate III in Wood Machining* from the FWP Forest and Wood Products Training Package.

Licensing/Regulatory Information

No licensing, legislative or certification requirements apply to this skill set at the time of publication.

Skill Set Requirements

- FWPCOT2243 Tail out timber product and waste material
- FWPCOT2244 Operate and maintain a thicknesser
- FWPCOT2269 Operate and maintain a table saw
- FWPCOT3295 Assess and maintain cutter performance
- FWPCOT3335 Conduct operator level equipment maintenance in forest and wood products industry
- FWPCOT3349 Assess timber against quality requirements and specifications

Target Group

This skill set is for individuals, production personnel and various tradespeople interested in beginning a Wood Machinist career in the forest and wood products industry.

Suggested words for Statement of Attainment

These competencies from the FWP Forest and Wood Products Training Package meet the industry requirements for beginning a Wood Machinist career in the forest and wood products industry.

FWPSS00070 Process Control and Optimisation (Timber Sawmills) Skill Set

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Description

This skill set provides the skills and knowledge required to manage process control and optimisation in a timber sawmill. This covers identifying opportunities for timber and workflow optimisation, monitoring output timber and developing and implementing a plan to ensure maximum volume and value recovery. It includes implementing six sigma to minimise defects and improve processes and/or products and reviewing Just in Time key performance indicators with appropriate personnel up and down the value stream to identify issues and take prompt actions.

Pathways Information

These units of competency provide credit towards *FWP40222 Certificate IV in Timber and Wood Products Operations* from the FWP Forest and Wood Products Training Package.

Licensing/Regulatory Information

No licensing, legislative or certification requirements apply to this skill set at the time of publication.

Skill Set Requirements

- FWPCOT3291 Apply principles of timber and process optimisation in sawmill operations
- FWPSAW4206 Monitor output timber for optimum volume and value recovery
- FWPSAW4207 Optimise timber production for volume and value recovery
- MSS403022 Facilitate a Just in Time system
- MSS404056 Apply statistics to operational processes
- MSS405055 Manage application of Six Sigma for process control and improvement

Target Group

This skill set is for people who hold a team leader position or are interested in pursuing a management career in the timber and wood products industry.

Suggested words for Statement of Attainment

These competencies from the FWP Forest and Wood Products Training Package and MSS Sustainability Training Package meet the industry requirements for providing process management and optimisation skills for timber sawmill operations.

FWPSS00071 Foundational Leadership and Management (Log Yard Operations) Skill Set

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Description

This skill set provides the skills and knowledge required to manage and lead activities, communication strategies, teamwork, and processes for the 5S pillars and complex problem solving in log yard production operations in order to achieve team and organisational objectives.

Pathways Information

These units of competency provide credit towards *FWP40222 Certificate IV in Timber and Wood Products Operations* from the FWP Forest and Wood Products Training Package.

Licensing/Regulatory Information

No licensing, legislative or certification requirements apply to this skill set at the time of publication.

Skill Set Requirements

- BSBOPS402 Coordinate business operational plans
- BSBXCM401 Apply communication strategies in the workplace
- BSBXTW401 Lead and facilitate a team
- FWPCOT4221 Plan for and supervise log yard operations
- MSS402042 Apply 5S procedures
- MSS407026 Lead a process to determine and solve root cause for a complex problem
- MSS407029 Improve visual management in the workplace

Target Group

This skill set is for log yard frontline and technically proficient production personnel who are interested in pursuing a leadership career in the forest and wood products industry.

Suggested words for Statement of Attainment

These competencies from the BSB Business Services Training Package, FWP Forest and Wood Products Training Package and MSS Sustainability Training Package meet the industry requirements for providing leadership in the forest and wood products industry.

FWPSS00072 Foundational Leadership and Management (Log Processing Operations) Skill Set

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Description

This skill set provides the skills and knowledge required to manage and lead activities, communication strategies, teamwork, and processes for the 5S pillars and complex problem solving in log processing operations in order to achieve team and organisational objectives.

Pathways Information

These units of competency provide credit towards *FWP40222 Certificate IV in Timber and Wood Products Operations* from the FWP Forest and Wood Products Training Package.

Licensing/Regulatory Information

No licensing, legislative or certification requirements apply to this skill set at the time of publication.

Skill Set Requirements

- BSBOPS402 Coordinate business operational plans
- BSBXCM401 Apply communication strategies in the workplace
- BSBXTW401 Lead and facilitate a team
- FWPSAW4209 Plan for and supervise log processing operations
- MSS402042 Apply 5S procedures
- MSS407026 Lead a process to determine and solve root cause for a complex problem
- MSS407029 Improve visual management in the workplace

Target Group

This skill set is for log processing frontline and technically proficient production personnel who are interested in pursuing a leadership career in the forest and wood products industry.

Suggested words for Statement of Attainment

These competencies from the BSB Business Services Training Package, FWP Forest and Wood Products Training Package and MSS Sustainability Training Package meet the industry requirements for providing leadership in the forest and wood products industry.

FWPSS00073 Foundational Leadership and Management (Timber Dry Mill Operations) Skill Set

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Description

This skill set provides the skills and knowledge required to manage and lead activities, communication strategies, teamwork, and processes for the 5S pillars and complex problem solving in timber dry mill operations in order to achieve team and organisational objectives.

Pathways Information

These units of competency provide credit towards *FWP40222 Certificate IV in Timber and Wood Products Operations* from the FWP Forest and Wood Products Training Package.

Licensing/Regulatory Information

No licensing, legislative or certification requirements apply to this skill set at the time of publication.

Skill Set Requirements

- BSBOPS402 Coordinate business operational plans
- BSBXCM401 Apply communication strategies in the workplace
- BSBXTW401 Lead and facilitate a team
- FWPSAW4210 Plan for and supervise timber dry mill operations
- MSS402042 Apply 5S procedures
- MSS407026 Lead a process to determine and solve root cause for a complex problem
- MSS407029 Improve visual management in the workplace

Target Group

This skill set is for timber dry mill frontline and technically proficient production personnel who are interested in pursuing a leadership career in the forest and wood products industry.

Suggested words for Statement of Attainment

These competencies from the BSB Business Services Training Package, FWP Forest and Wood Products Training Package and MSS Sustainability Training Package meet the industry requirements for providing leadership in the forest and wood products industry.

FWPSS00074 Foundational Leadership and Management (Timber Kiln Drying Operations) Skill Set

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Description

This skill set provides the skills and knowledge required to manage and lead activities, communication strategies, teamwork, and processes for the 5S pillars and complex problem solving in timber kiln operations in order to achieve team and organisational objectives.

Pathways Information

These units of competency provide credit towards *FWP40222 Certificate IV in Timber and Wood Products Operations* from the FWP Forest and Wood Products Training Package.

Licensing/Regulatory Information

No licensing, legislative or certification requirements apply to this skill set at the time of publication.

Skill Set Requirements

- BSBOPS402 Coordinate business operational plans
- BSBXCM401 Apply communication strategies in the workplace
- BSBXTW401 Lead and facilitate a team
- FWPSAW4208 Plan for and coordinate timber kiln drying operations
- MSS402042 Apply 5S procedures
- MSS407026 Lead a process to determine and solve root cause for a complex problem
- MSS407029 Improve visual management in the workplace

Target Group

This skill set is for timber kiln drying frontline and technically proficient production personnel who are interested in pursuing a leadership career in the forest and wood products industry.

Suggested words for Statement of Attainment

These competencies from the BSB Business Services Training Package, FWP Forest and Wood Products Training Package and MSS Sustainability Training Package meet the industry requirements for providing leadership in the forest and wood products industry.

FWPSS00075 Foundational Leadership and Management (Timber Treatment Operations) Skill Set

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Description

This skill set provides the skills and knowledge required to manage and lead activities, communication strategies, teamwork, and processes for the 5S pillars and complex problem solving in timber treatment operations in order to achieve team and organisational objectives.

Pathways Information

These units of competency provide credit towards *FWP40222 Certificate IV in Timber and Wood Products Operations* from the FWP Forest and Wood Products Training Package.

Licensing/Regulatory Information

No licensing, legislative or certification requirements apply to this skill set at the time of publication.

Skill Set Requirements

- BSBOPS402 Coordinate business operational plans
- BSBXCM401 Apply communication strategies in the workplace
- BSBXTW401 Lead and facilitate a team
- FWPCOT4222 Plan for and supervise timber treatment plant operations
- MSS402042 Apply 5S procedures
- MSS407026 Lead a process to determine and solve root cause for a complex problem
- MSS407029 Improve visual management in the workplace

Target Group

This skill set is for timber treatment frontline and technically proficient production personnel are interested in pursuing a leadership career in the forest and wood products industry.

Suggested words for Statement of Attainment

These competencies from the BSB Business Services Training Package, FWP Forest and Wood Products Training Package and MSS Sustainability Training Package meet the industry requirements for providing leadership in the forest and wood products industry.

FWPSS00076 Foundational Leadership and Management (Engineered Wood Products Operations) Skill Set

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Description

This skill set provides the skills and knowledge required to manage and lead activities, communication strategies, teamwork, and processes for the 5S pillars and complex problem solving in engineered wood products operations in order to achieve team and organisational objectives.

Pathways Information

These units of competency provide credit towards *FWP40222 Certificate IV in Timber and Wood Products Operations* from the FWP Forest and Wood Products Training Package.

Licensing/Regulatory Information

No licensing, legislative or certification requirements apply to this skill set at the time of publication.

Skill Set Requirements

- BSBOPS402 Coordinate business operational plans
- BSBXCM401 Apply communication strategies in the workplace
- BSBXTW401 Lead and facilitate a team
- FWPTMM4216 Plan for and supervise engineered wood product operations
- MSS402042 Apply 5S procedures
- MSS407026 Lead a process to determine and solve root cause for a complex problem
- MSS407029 Improve visual management in the workplace

Target Group

This skill set is for engineered wood product frontline and technically proficient production personnel who are interested in pursuing a leadership career in the forest and wood products industry.

Suggested words for Statement of Attainment

These competencies from the BSB Business Services Training Package, FWP Forest and Wood Products Training Package and MSS Sustainability Training Package meet the industry requirements for providing leadership in the forest and wood products industry.

FWPCOR2203 Follow environmental care procedures

Modification History

Release	Comment
1	Replaces equivalent unit FPICOR2203B Follow environmental care procedures, which was first released with FPI11 Forest and Forest Products Training Package Version 1. This is the first release of this unit in the new standards format.

Application

This unit of competency describes the outcomes required to identify, maintain and monitor environmental work practices: including recognising basic environmental risks and hazards, and implementing environmental policies and workplace or industry practices, with the aim of improving environmental care practices.

The unit applies those working in a broad range of job roles across different work settings, in a forest or harvesting environment, including saw mill, wood chip mill, veneer mill, board/plywood mill, timber treatment plant, forest products factory, and forest products sales and service, horticultural, domestic, local council and emergency services.

No licensing, legislative, regulatory, or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Forest Growing and Management

Harvesting and Haulage

Sawmilling and Processing

Timber Manufactured Products

Timber Merchandising

Wood Panel Products

Timber Truss and Frame Design and Manufacture

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the range of conditions.</i>
1. Identify environmental care requirements	<p>1.1 Check work order and identify and clarify environmental care requirements with appropriate personnel.</p> <p>1.2 Identify environmental protection zones required by legislation or industry codes of practice.</p> <p>1.3 Identify and report existing and potential environmental risks and hazards to relevant personnel.</p> <p>1.4 Identify WHS requirements for managing environmental risks or performing environmental care.</p>
2. Ensure work practices follow environmental care requirements	<p>2.1 Follow applicable WHS, environmental, legislative and organisational requirements when responding to environmental risks or hazards.</p> <p>2.2 Select suitable resources to respond to environmental risk or hazard.</p> <p>2.3 Follow site procedures for dealing with environmental incidents, accidents, and emergencies.</p>
3. Seek opportunities to improve environmental care practices	<p>3.1 Suggest specific improvements to environmental care practices and resource efficiency to relevant personnel.</p> <p>3.2 Update knowledge of changes in environmental care.</p> <p>3.3 Record and report breaches or potential breaches of environmental regulations to relevant personnel in line with workplace procedures.</p>

Foundation Skills

This section describes those core and employment skills that are essential to performance and are not explicit in the performance criteria.

Numeracy skills to:	<ul style="list-style-type: none"> • calculate the probability of risks • estimate distance for buffer zones.
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Reading skills to:	<ul style="list-style-type: none">• interpret information about environmental care and safety procedures arising from environmental risks.
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Range of Conditions

Not Applicable

Unit Mapping Information

FPICOR2203B Follow environmental care procedures

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOR2203 Follow environmental care procedures

Modification History

Release	Comment
1	<p>Replaces equivalent unit FPICOR2203B Follow environmental care procedures, which was first released with FPI11 Forest and Forest Products Training Package Version 1. This is the first release of this unit in the new standards format.</p> <p>Assessment requirements now specify the performance and knowledge evidence, as well as assessment conditions for this unit of competency. These sections simplify and replace components used in the previous unit format, including 'Required Skills and Knowledge, Evidence Guide and Range Statement'.</p>

Performance Evidence

A person demonstrating competency in this unit must satisfy all of the elements, performance criteria and foundation skills of this unit. If a specific volume or frequency is not stated below, then evidence must be provided that the following requirements have been performed on at least one occasion:

- follow site, legal and organisational requirements and protocols relevant to environmental care
- identify environmental hazards and risks that could occur in their own work setting
- calculate the probability and consequences of those risks
- respond to environmental risks safely and according to site procedures and scope of responsibility within the workplace.

Knowledge Evidence

A person competent in this unit must be able to demonstrate knowledge of:

- legal and organisational requirements and codes of practice relevant to environmental care
- environmental protection requirements related to the work setting and work role
- organisational and site standards relevant to environmental care procedures
- environmental care policies and practices
- risk management, hazards and hazard identification
- established workplace and site specific communication channels and protocols
- types of tools and equipment and procedures used in response to environmental hazards and risk, and the safe use and maintenance of these tools
- procedures for recording and reporting workplace and site specific information.

Assessment Conditions

The following resources must be made available:

- resources that would be used for environmental care
- organisational and site policies and procedures for environmental care.

Competency is to be assessed in the workplace or a simulated environment that accurately reflects performance in a real workplace setting.

Assessor requirements

Assessors must:

- hold the appropriate assessor competency standards as outlined in regulations; and
- be able to demonstrate vocational competencies at least to the level being assessed; and
- be able to demonstrate how they are continuing to develop their VET knowledge and skills as well as maintaining their industry currency and assessor competence.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOR2205 Follow WHS policies and procedures

Modification History

Release	Comment
1	Replaces equivalent, FPICOR2205B Follow OHS policies and procedures which was first released with FPI11 Forest and Forest Products Training Package Version 1. This is the first release of this unit in the new standards format.

Application

The unit of competency describes the outcomes required to follow WHS policies and procedures: it covers risk identification and emergency procedures that could reasonably be expected to occur in a forestry or wood products environment.

The unit applies to those working in a broad range of job roles across different work settings, including a forest environment, saw mill, wood chip mill, veneer mill, board/plywood mill, timber treatment plant, forest products factory, and forest products sales and service, horticultural, domestic, local council and emergency services.

Licensing, legislative, regulatory or certification requirements apply to this unit in some states and territories at the time of publication, and may differ according to jurisdiction. In some states, this unit is one of a group of units required to obtain a Forest Operator Licence.

Pre-requisite Unit

Nil

Unit Sector

Forest Growing and Management

Harvesting and Haulage

Sawmilling and Processing

Timber Manufactured Products

Timber Merchandising

Wood Panel Products

Timber Truss and Frame Design and Manufacture

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the range of conditions.</i>
1. Follow safe work practices	1.1 Identify organisational and site WHS policies and procedures. 1.2 Operate and use tools, equipment and machinery appropriate to work task and according to manufacturer's recommendations. 1.3 Select, use and store personal protective equipment and clothing appropriate to work task requirements. 1.4 Use plant and equipment guards according to manufacturer's specifications. 1.5 Identify and follow safety signs and symbols.
2. Identify risks	2.1 Identify existing and potential hazards in the work area and report to appropriate personnel. 2.2 Identify WHS issues and risks in the work area and report to appropriate personnel. 2.3 Follow workplace procedures and work instructions for controlling risks and protecting the environment. 2.4 Complete hazard, accident or incident reports accurately and clearly and according to organisational policies and procedures.
3. Follow emergency procedures	3.1 Notify appropriate personnel in the event of an emergency. 3.2 Follow workplace procedures for dealing with accidents and emergencies. 3.3 Practise emergency and evacuation procedures and carry out emergency and evacuation procedures in the event of an emergency. 3.4 Record and accurately report emergencies and evacuation procedures.

Foundation Skills

This section describes those core and employment skills that are essential to performance and are not explicit in the performance criteria.

Reading skills to:

- understand safety signs and symbols
- understand manufacturer's specifications for plant and equipment guards

	<ul style="list-style-type: none"> • understand organisational policies and procedures.
Numeracy skills to:	<ul style="list-style-type: none"> • use a risk matrix and calculate risk • estimate weight and volume, and establish centre of gravity.
Writing skills to:	<ul style="list-style-type: none"> • complete a hazard report clearly and legibly
Communication skills to:	<ul style="list-style-type: none"> • notify and report hazards to appropriate personnel.
Problem solving skills to:	<ul style="list-style-type: none"> • manage risks and respond to hazards.

Range of Conditions

Not Applicable

Unit Mapping Information

FPICOR2205B Follow OHS policies and procedures

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOR2205 Follow WHS policies and procedures

Modification History

Release	Comment
1	<p>Replaces superseded equivalent, FPICOR2205B Follow OHS policies and procedures which was first released with FPI11 Forest and Forest Products Training Package Version 1. This is the first release of this unit in the new standards format.</p> <p>Assessment requirements now specify the performance and knowledge evidence, as well as assessment conditions for this unit of competency. These sections simplify and replace components used in the previous unit format, including 'Required Skills and Knowledge, Evidence Guide and Range Statement'.</p>

Performance Evidence

A person demonstrating competency in this unit must satisfy all of the elements, performance criteria and foundation skills of this unit. If a specific volume or frequency is not stated below, then evidence must be provided that the following requirements have been performed on at least one occasion:

- identify risks and hazards in the workplace and implement appropriate actions to address those risks and hazards
- use and maintain personal protective equipment and clothing to ensure their own safety
- follow emergency and evacuation procedures
- interpret and follow safety signs and symbols
- complete and maintain workplace information, records and reports about hazards, risks and incidents.

Knowledge Evidence

A person competent in this unit must be able to demonstrate knowledge of:

- legal and organisational requirements and codes of practice relevant to WHS
- enterprise and site standards, policies and procedures for WHS, as they apply to the job role
- environmental risks and hazard identification
- hazard and risk control
- equipment used for workplace health and safety, and procedures for its safe use and maintenance
- personal protective equipment and clothing and its properties
- firefighting equipment

- fatigue management
- elimination of hazardous substances
- machine guarding
- manual handling including shifting, lifting and carrying
- procedures for recording and reporting workplace information.

Assessment Conditions

The following resources must be made available:

- personal protective equipment
- organisational policies and procedures
- manufacturer's instructions for the safe use of equipment.

Competency is to be assessed in the workplace or a simulated environment that accurately reflects performance in a real workplace setting.

Assessor requirements

Assessors must:

- hold the appropriate assessor competency standards as outlined in regulations; and
- be able to demonstrate vocational competencies at least to the level being assessed; and
- be able to demonstrate how they are continuing to develop their VET knowledge and skills as well as maintaining their industry currency and assessor competence.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOR2206 Work effectively in the forest and wood products industry

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to perform work activities, in accordance with legislative and workplace requirements, in the forest and wood products industry.

The unit applies to individuals working in a broad range of roles and operations in the forest and wood products industry, including those engaged in forestry operations, timber processing, timber manufacturing, and timber supply.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation, standards and industry codes of practice that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Core (COR)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for daily work activities in forest or wood products operations	<p>1.1 Confirm legislative and workplace requirements relating to employment quality, security, confidentiality and reporting lines relevant to own scope of work</p> <p>1.2 Determine job requirements from work order or instruction and, where required, seek clarification from appropriate personnel</p> <p>1.3 Confirm legislative and workplace requirements relating to workplace health and safety and environmental protection</p> <p>1.4 Identify factors affecting job requirements, assess their impact and take action to ensure job requirements are implemented safely</p>
2. Prioritise and complete daily work activities in forest or wood products operations	<p>2.1 Assess own workload, set priorities and plan tasks within allocated timeframe</p> <p>2.2 Select tools, equipment and personal protective equipment appropriate to job requirements, check for serviceability and use according to manufacturer instructions</p> <p>2.3 Monitor own work to ensure compliance with workplace procedures and job requirements</p> <p>2.4 Complete tasks according to workplace quality standards</p>
3. Identify own skill development needs	<p>3.1 Seek feedback on own work performance and identify training and skill development needs</p> <p>3.2 Consult appropriate personnel to identify potential training and skill development opportunities</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Identify and extract basic information from print and electronic sources on training and skill development opportunities
Writing	<ul style="list-style-type: none"> Use technical and enterprise specific vocabulary to accurately and legibly complete workplace records and forms
Oral communication	<ul style="list-style-type: none"> Select and use appropriate spoken communication strategies with

Skill	Description
	work colleagues and other personnel on site
Numeracy	<ul style="list-style-type: none"> Estimate time required to complete work tasks

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOR2206 Work effectively in the forest and wood products industry	FWPCOR2201 Work effectively in the forest and forest products industry	<p>Updated title</p> <p>Minor change to Application Statement</p> <p>Reworded Elements, Performance Criteria, Foundation Skills and Assessment Conditions</p> <p>Revised Performance Evidence and Knowledge Evidence to align with Elements and Performance Criteria</p>	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOR2206 Work effectively in the forest and wood products industry

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has:

- identified one workplace requirement relevant to personal scope of activity that relates to each of the following:
 - workplace health and safety
 - employment
 - environmental protection
 - quality
 - security
 - confidentiality
 - reporting lines
- used equipment and tools appropriate to the work activity to complete assigned tasks for one work period/shift according to workplace instructions and quality requirements
- used and maintained personal protective equipment (PPE) and clothing to ensure personal safety
- identified, planned, prioritised and implemented work activities for one work period/shift
- asked feedback on own performance from supervisor and identified own skill development needs.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- commonwealth, state or territory legislation and regulations, standards, codes of practice and workplace procedures relevant to the individual's job role in the forest and wood products industry, including:
 - workplace health and safety

- employment
- environmental protection
- quality
- security
- confidentiality
- reporting lines
- workplace behaviour and conduct standards
- format and content of work order
- techniques for planning and prioritising work activities
- factors that may influence the quality of own work activities and outcomes and how to recognise these
- purpose, method and requirements for monitoring own work activities and outcomes within own scope of work
- functional, operational and maintenance aspects of tools and equipment used in the individual's job role in the forest and wood products industry
- workplace procedures regarding use of PPE for own work activities
- ways to identify own skill development needs.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest and wood products industry workplace or an environment that accurately represents workplace conditions
- resources:
 - tools, equipment and PPE relevant to work task
- specifications:
 - work order or instruction detailing work to be carried out
 - manufacturer specifications
 - commonwealth, state or territory legislation and regulations, standards, codes of practice relevant to work task
 - workplace procedures relevant to work task.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOR2208 Communicate and interact effectively in the forest and wood products industry

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to communicate and interact effectively with other workers in the forest and wood products industry.

The unit applies to individuals working in a broad range of roles and operations in the forest and wood products industry, including those engaged in forestry operations, timber processing, timber manufacturing, and timber supply.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation, standards and industry codes of practice that apply to the workplace.

No licencing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Core (COR)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for workplace	1.1 Confirm workplace communication procedures used in forest or

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
communication	wood products operations 1.2 Identify mode of communication most relevant to task, intended audience and workplace context
2. Use routine face-to-face communication	2.1 Speak clearly and concisely, and use language that is appropriate to the listener 2.2 Use active listening and questioning techniques to clarify instructions 2.3 Engage in and maintain verbal communication with others to assist flow of work activities 2.4 Take, confirm and pass on messages
3. Use visual and aural communication applied in forest or wood products operations	3.1 Read and respond to workplace signs and symbols 3.2 Use and respond to hand signals 3.3 Listen and respond to aural signals
4. Communicate using electronic communication equipment	4.1 Select the most appropriate method of communication 4.2 Identify communication equipment features and control functions 4.3 Operate communication equipment safely in accordance with manufacturer instructions, workplace procedures and regulatory requirements 4.4 Acknowledge and respond to communication 4.5 Pass on communication to relevant personnel in a clear and concise manner 4.6 Identify and report faults in communication equipment
5. Complete workplace forms/documents used in forest or wood products operations	5.1 Select appropriate form/document 5.2 Gather information required to complete form/document 5.3 Complete form/document using appropriate format and technology to record and report information 5.4 Pass on completed form/document to appropriate person
6. Take part in group discussions and informal meetings in forest or wood products operations	6.1 Participate in small informal group activities and meetings to facilitate workplace outcomes 6.2 Provide and seek responses from other group members in a constructive manner 6.3 Acknowledge and accurately represent the views and opinions of

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	individuals or group to others, as required
7. Maintain work relationships	7.1 Communicate cooperatively and effectively with others in forest or wood products operations 7.2 Share relevant workplace information with co-workers 7.3 Provide assistance to and seek assistance from co-workers to achieve work goals 7.4 Acknowledge individual, social and cultural differences 7.5 Clarify contradictions and uncertainties to ensure effective communications and productive relationships

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Identify and extract basic information from print and online operational manuals
Writing	<ul style="list-style-type: none"> Use technical and enterprise specific vocabulary to accurately and legibly complete workplace forms and documents
Numeracy	<ul style="list-style-type: none"> Use numeric information and perform basic arithmetic calculations to complete workplace forms and documents

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOR2208 Communicate and	FWPCOR2202 Communicate and	Updated unit title	Not equivalent

interact effectively in the forest and wood products industry	interact effectively in the workplace	Updated and added new Elements and Performance Criteria Updated and added new Knowledge Evidence and Performance Evidence Reworded Foundation Skills and Assessment Conditions	
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Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOR2208 Communicate and interact effectively in the forest and wood products industry

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has:

- conducted one face-to-face communication with a co-worker on a forest or wood products work related matter
- applied hand or aural communication on one occasion to communicate in the workplace
- used electronic communications equipment on one occasion to communicate with a co-worker on a forest or wood products work related matter
- completed two workplace forms or documents to communicate on a forest or wood products work related matter
- taken part in one group discussion or meeting on a forest or wood products work related matter
- contributed to the maintenance of effective workplace relations on one occasion.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- workplace communication procedures used in forest or wood products operations
- basic principles of effective face-to-face communication
- basic active listening and questioning techniques
- features, control functions and operating procedures for electronic communications equipment used in the forest and wood products industry
- procedures for small informal group activities and meetings in the workplace appropriate to job tasks and work site
- types, formats and purposes of print and electronic workplace forms and documents appropriate to job tasks and work site
- purpose, types and meanings of visual and aural communication used in the forest and wood products industry and appropriate to job tasks and work site:

- workplace signs and symbols
- workplace aural signals
- workplace hand signals
- basic principles of effective working relationships
- individual, social and cultural differences that occur in the workplace.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest and wood products industry workplace or an environment that accurately represents workplace conditions
- resources:
 - electronic communication equipment
 - workplace forms and documents
 - workplace signs and symbols
 - access to small informal group activity or meeting convened to consider a workplace matter
- specifications:
 - workplace communication procedures
 - manufacturer manuals for electronic communication equipment
 - workplace guides on signs and symbols
 - workplace guides on aural and hand signals.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOR2209 Follow environmental protection procedures in forest and wood products operations

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to follow established environmental protection procedures when performing work in a forestry or wood products work environment.

The unit applies to individuals who work in a broad range of roles and operations in the forest and wood products industry and are required to follow environmental protection procedures when performing routine work activities.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation, standards and industry codes of practice that apply to the workplace.

No licencing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Core (COR)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Determine environmental protection	1.1 Check work order and identify and clarify environmental

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
requirements for the work task	protection requirements with appropriate personnel 1.2 Identify and report existing and potential environmental hazards to relevant personnel 1.3 Identify workplace procedures for responding to environmental hazards and associated risks
2. Ensure work practices follow environmental protection requirements	2.1 Confirm that work practices comply with environment protection requirements 2.2 Follow workplace procedures and industry codes of practice in responding to environmental incidents, accidents and emergencies within scope of own responsibility
3. Seek opportunities to improve environmental protection practices	3.1 Suggest specific improvements to environmental protection practices to relevant personnel 3.2 Identify and confirm updated changes in environmental protection procedures and work practices 3.3 Record and report breaches or potential breaches of environmental protection requirements to relevant personnel according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Read basic information in print and electronic sources on environmental protection procedures
Writing	<ul style="list-style-type: none"> Complete workplace forms related to environmental protection procedures
Oral communication	<ul style="list-style-type: none"> Use active listening and questioning to clarify environmental protection procedures

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOR2209 Follow environmental protection procedures in forest and wood products operations	FWPCOR2203 Follow environmental care procedures	Updated unit title Minor changes to Application Statement, Performance Criteria, Performance Evidence and Knowledge Evidence Updated Foundation Skills Reworded Assessment Conditions	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOR2209 Follow environmental protection procedures in forest and wood products operations

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, for one work period/shift, the individual has complied with workplace environmental protection requirements while performing personal work tasks related to a forest or wood products operation.

In performing this activity, the individual has:

- followed site, legal and workplace environmental protection requirements
- identified and reported to supervisor environmental hazards and associated risks that may be present in personal work setting
- responded to environmental risks safely and according to site procedures and scope of responsibility within the workplace.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- legal and workplace requirements and codes of practice relevant to environmental protection, as they apply to forest or wood products operations and the job role
- environmental protection requirements related to the work setting and work role
- workplace environmental protection procedures
- hazards and hazard identification, including associated risks and controls
- established workplace communication channels and protocols
- procedures for recording and reporting workplace and workplace specific information.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest or wood products work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - work site, tools and equipment required for performing routine work activities associated with job role
- specifications:
 - environmental procedures relevant to the routine work activity.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOR2210 Follow workplace health and safety policies and procedures in forest and wood products operations

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0

Application

This unit of competency describes the skills and knowledge required to follow established workplace health and safety policies and procedures when performing work in a forestry or wood products work environment.

The unit applies to individuals working in a broad range of roles and operations in the forest and wood products industry and are required to follow workplace health and safety policies and procedures.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation, standards and industry codes of practice that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Core (COR)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Follow safe work	1.1 Identify workplace health and safety policies and procedures

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
practices	<p>1.2 Operate and safely use tools, equipment and machinery appropriate to work task according to workplace and manufacturer safety and operational instructions</p> <p>1.3 Select, use and store personal protective equipment and clothing appropriate to work task</p> <p>1.4 Identify and follow safety signs and symbols used in forest or wood products operations</p> <p>1.5 Apply safe manual handling techniques</p> <p>1.6 Apply fatigue management techniques</p>
2. Identify hazards	<p>2.1 Identify existing and potential hazards in the work area and report to appropriate personnel</p> <p>2.2 Identify risks associated with identified hazards in the work area and report to appropriate personnel</p> <p>2.3 Follow workplace procedures and work instructions for controlling hazards</p> <p>2.4 Make suggestions to improve documented workplace health and safety policies and procedures when they differ from actual onsite safe work practices</p> <p>2.5 Complete routine hazard, accident or incident reports according to workplace procedures</p>
3. Follow emergency procedures	<p>3.1 Notify appropriate personnel in the event of an emergency</p> <p>3.2 Follow workplace procedures for dealing with accidents and emergencies</p> <p>3.3 Participate in emergency and evacuation drills according to workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description

Skill	Description
Reading	<ul style="list-style-type: none"> • Read safety signs and symbols • Read workplace policies and procedures
Writing	<ul style="list-style-type: none"> • Complete a routine hazard report using familiar language
Oral communication	<ul style="list-style-type: none"> • Notify and report hazards to appropriate personnel
Numeracy	<ul style="list-style-type: none"> • Make routine estimations of quantity, time, distance and weight

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOR2210 Follow workplace health and safety policies and procedures in forest and wood products operations	FWPCOR2205 Follow WHS policies and procedures	<p>Updated unit title</p> <p>Minor editorial changes to Performance Criteria and Knowledge Evidence</p> <p>New Performance Criteria for alignment with Knowledge Evidence</p> <p>New description provided for Foundation Skills</p> <p>Redrafted Assessment Conditions</p>	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOR2210 Follow workplace health and safety policies and procedures in forest and wood products operations

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, for one work period/shift, the individual has complied with workplace health and safety requirements while performing personal work tasks related to a forest or wood products operation, including:

- identified and reported to supervisor health and safety hazards and associated risks that may be present in personal work setting
- selected and implemented appropriate risk controls
- used equipment and tools appropriate to the work activity to complete assigned tasks according to workplace procedures
- used and maintained personal protective equipment (PPE) and clothing to ensure personal safety
- followed safety signs and symbols
- completed one routine hazard, accident or incident report.

There must also be evidence that the individual has participated in at least one emergency and evacuation drill.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- workplace standards, codes of practice, policies and procedures for workplace health and safety, as they apply to forest or wood products operations and the job role
- hazards and hazard identification, including associated risks and controls
- functional, operational and maintenance aspects of tools and equipment used in the individual's job role in the forest and wood products industry
- workplace procedures regarding use of PPE and clothing for own work activities

- fatigue management
- manual handling techniques
- procedures for recording and reporting workplace information.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest or wood products work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - PPE relevant to work task
- specifications:
 - workplace health and safety policies and procedures relevant to the work activity
 - manufacturer instructions for the safe use of equipment.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOR2211 Develop knowledge of the forest and wood products industry

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to develop a contemporary view of the industry, identify potential career pathways and be aware of both the impact and opportunities that are being created by technological innovation and improved environmental management in the industry.

The unit applies to individuals who are developing knowledge necessary for working in the forest and wood products industry, or for conveying the benefits of this industry and timber use to others.

The unit has wide application and may be used in workplaces, schools, adult and community learning organisations or registered training organisations to develop the forest and wood products industry knowledge of individuals. The unit may also be used as part of pre-vocational or new apprenticeship programs.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Core (COR)

Elements and Performance Criteria

Elements	Performance Criteria
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<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Identify the scope of commercial forestry operations in Australia	<p>1.1 Describe the forest management cycle</p> <p>1.2 Distinguish between native forests and plantations</p> <p>1.3 Identify the primary and secondary products of commercial forestry operations in Australia</p> <p>1.4 Identify the contribution of commercial forestry operations to the Australian economy</p> <p>1.5 Source information for the social, cultural and economic importance of forests to key stakeholders, including Indigenous people and regional communities</p>
2. Identify the structure of the forest and wood products industry	<p>2.1 Identify the key sectors of the forest and wood products industry, the products and services produced in each sector, the types of businesses operating in each sector, and the way in which the sectors interrelate</p> <p>2.2 Source information on the structure of the forest and wood products industry</p>
3. Identify occupations and career pathways in the forest and wood products industry	<p>3.1 Identify career options in the forest and wood products industry</p> <p>3.2 Describe a career pathway in the forest and wood products industry and the training and skill development options that are available for people pursuing this pathway</p> <p>3.3 Source information on jobs and career pathways in the forest and wood products industry</p>
4. Identify the types, properties and uses of timber products	<p>4.1 Classify Australian commercial timber species as hardwood or softwood</p> <p>4.2 Identify the properties and uses of the main Australian commercial timber species</p> <p>4.3 Explain the benefits of using timber as a building material</p> <p>4.4 Identify the emerging new uses of wood and wood residues and the potential impact of these on job opportunities and skills in the forest and wood products industry</p>
5. Identify the impact of sustainability on the forest and wood products industry	<p>5.1 Explain the importance of environmental protection in the forest and wood products industry</p> <p>5.2 Explain the principles of sustainable development and biodiversity and how they are implemented in the forest and wood products industry</p> <p>5.3 Identify the impact that climate change and carbon reduction</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	strategies may have on the forest and wood products industry 5.4 Source information on environmental management issues impacting on the forest and wood products industry
6. Identify the impact of technological innovation on the forest and wood products industry	6.1 Identify the transformative technologies that are impacting on the forest and wood products industry 6.2 Source information on transformative technologies in the forest and wood products industry

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Learning	<ul style="list-style-type: none"> Apply basic learning strategies to develop knowledge of the forest and wood products industry
Reading	<ul style="list-style-type: none"> Read standard texts and industry materials in print and electronic form to gather information on the forest and wood products industry
Writing	<ul style="list-style-type: none"> Take notes and record outcomes of research activities using paper-based and digital technologies
Oral communication	<ul style="list-style-type: none"> Ask questions to clarify information Use appropriate technical language to describe activities in the forest and wood products industry
Numeracy	<ul style="list-style-type: none"> Interpret basic numerical and graphical information

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOR2211 Develop knowledge	Not applicable	The unit has been created to address a skill or task	Newly created

of the forest and wood products industry		required by industry that is not covered by an existing unit	
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Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOR2211 Develop knowledge of the forest and wood products industry

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has:

- researched and produced a basic report on at least three social, cultural and/or economic benefits of the forest and wood products industry to Indigenous people and regional communities
- sought information from one industry professional about two transformative technologies in the forest and wood products industry
- researched and documented how sustainable development and biodiversity principles are implemented in the forest and wood products industry
- researched and explained to others three benefits of using timber as a building material.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes basic introductory knowledge, as an overview of the industry, of:

- commercial forestry operations in Australia:
 - forest management cycle
 - native forests and plantations
 - primary and secondary products of commercial forestry
 - social, cultural and economic importance of forests to stakeholders, including Indigenous people and regional communities
- structure of forest and wood products industry:
 - key sectors of the forest and wood products industry
 - products and services produced in each sector
 - the types of businesses operating in each sector
 - way in which the sectors interrelate

- sources of information on the structure of the forest and wood products industry
- types and sources of information on career options and pathways in the forest and wood products industry
- timber products:
 - types, properties and uses of Australian hardwood and softwood commercial timber species
 - benefits of using timber as a building material
 - emerging new uses of wood and wood residues
- impact of sustainability on forest and wood products industry:
 - importance of environmental care in the forest and wood products industry
 - principles of sustainable development and biodiversity and their application in the forest and wood products industry
 - climate change and carbon reduction strategies and their impact on the forest and wood products industry
 - sources of information on environmental management issues
- impact of technological innovation on the forest and wood products industry:
 - types and impact of transformative technologies impacting on the forest and wood products industry – genetics, harvesting and processing technologies
 - sources of information on transformative technologies.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- resources, equipment and materials:
 - online access to reference materials
 - reference materials and other sources of information on the forest and wood products industry appropriate for entry level workers, particularly learners who are involved in school-based VET traineeships and other VET in school programs.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOR3205 Apply safety, health and environmental requirements in forest and wood products operations

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0

Application

This unit describes the skills and knowledge required to interpret and apply workplace safety, health and environmental protection (SHE) policies and procedures in forest and wood products work settings.

The unit applies to individuals who work in a broad range of roles and operations in the forest and wood products industry and are required to apply safety and environmental care procedures.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation, standards and industry codes of practice that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Core (COR)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Identify workplace	1.1 Identify workplace SHE policies and procedures

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
SHE goals	1.2 Identify the purpose of workplace SHE goals and, where required, seek clarification from appropriate personnel
2. Assess and control SHE hazards	2.1 Identify SHE hazards and assess associated risks in the workplace 2.2 Address hazards or escalate to appropriate personnel where necessary 2.3 Complete and submit SHE hazard or incident reports to appropriate personnel according to workplace procedures 2.4 Analyse and make suggestions for improving work practices to mitigate SHE hazards
3. Apply SHE policies and procedures	3.1 Select, use and store personal protective equipment and clothing appropriate to work task 3.2 Perform work tasks according to workplace SHE policies and procedures, and make suggestions to improve documented procedures when they differ from actual onsite SHE work practices 3.3 Organise duties, equipment and materials according to SHE policies and procedures 3.4 Apply workplace procedures in responding to SHE incidents and emergencies within scope of responsibilities 3.5 Monitor compliance with SHE policies and procedures, and take corrective action if required according to workplace procedures 3.6 Report and record SHE incidents according to workplace procedures 3.7 Integrate care for the environment, safety and health into all day-to-day activities

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extract routine information from industry guides and standard references on workplace SHE

Skill	Description
Writing	<ul style="list-style-type: none"> Complete workplace forms
Oral communication	<ul style="list-style-type: none"> Ask open and closed questions and use active listening techniques to seek clarification of SHE hazards and associated risks Provide oral reports on workplace SHE improvement measures
Numeracy	<ul style="list-style-type: none"> Interpret basic statistics on SHE performance

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOR3205 Apply safety, health and environmental requirements in forest and wood products operations	FWPCOR3201 Implement safety, health and environment policies and procedures	<p>Updated unit title</p> <p>Updated Elements, Performance Criteria Performance Evidence to clarify and align requirements across sections</p> <p>Updated Assessment Conditions</p>	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOR3205 Apply safety, health and environmental requirements in forest and wood products operations

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, for one work period/shift, the individual has applied workplace safety, health and environmental care (SHE) requirements while performing personal work tasks related to a forest or wood products operation, including:

- identified workplace safety, health and environmental care (SHE) goals, policies and procedures relevant to own scope of activities
- assessed, controlled and reported one SHE hazard and associated risks in own work area
- used equipment and materials according to workplace SHE policies and procedures.

There must be evidence that the individual has made one recommendation for the improvement of documented SHE procedures based on actual onsite setting/conditions and SHE work practices.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- workplace SHE goals, policies and procedures related to forest or wood products operations:
 - purpose of workplace SHE goals, policies and procedures
 - implications of non-compliance with workplace SHE goals, policies and procedures
 - techniques for monitoring compliance with SHE policies and procedures
 - ways of responding to incidents of non-compliance with SHE policies and procedures
 - processes for monitoring workplace SHE outcomes
- SHE hazards and associated risks related to forest or wood products operations:
 - types and impact of hazards

- processes for the assessment, control and reporting of SHE hazards
- processes for improving work practices to mitigate SHE hazards
- SHE incidents and emergencies related to forest or wood products operations:
 - types and impact of SHE incidents and emergencies
 - processes for responding to SHE incidents and emergencies
 - procedures for reporting SHE incidents and emergencies
- personal protective equipment (PPE) and clothing and their properties
- integrating care for the environment, safety and health into day-to-day forest or wood products activities:
 - ways of integrating care for the environment, safety and health into day-to-day activities
 - reasons for integrating care for the environment, safety and health into day-to-day activities.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest or wood products work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - PPE
 - recording tool for reporting SHE hazards and associated risks
- specifications:
 - SHE policies and procedures relevant to the work activity.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOR4204 Monitor safety, health and environmental requirements in forest and wood products operations

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to monitor the implementation of workplace safety, health and environmental (SHE) policies and procedures in forest and wood products organisations.

This unit is not intended to describe the skills required to undertake a formal SHE audit of a work site.

The unit applies to individuals who work in a broad range of roles and operations in the forest and wood products industry and are required to monitor the implementation of safety, health and environmental protection procedures.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation, standards and industry codes of practice that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Core (COR)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Monitor workplace SHE practices in a forest or wood products organisation	<p>1.1 Monitor SHE practices for compliance with legislative requirements, environmental management systems and workplace policies and procedures</p> <p>1.2 Monitor organisation of duties, equipment and materials for compliance with SHE requirements</p>
2. Monitor and assess SHE risks in a forest or wood products organisation	<p>2.1 Monitor and assess SHE hazards and associated risk in the work area and report to designated personnel</p> <p>2.2 Assess documented workplace instructions and procedures to identify areas for improvement in relation to SHE hazards and associated risks</p> <p>2.3 Observe actual onsite SHE work practices and make suggestions or improvements to documented workplace instructions and procedures</p> <p>2.4 Support the implementation of changes to work instructions, practices and procedures to mitigate SHE hazards and associated risks</p> <p>2.5 Check SHE or incident reports to ensure they reflect workplace procedures and state or territory legislation</p>
3. Monitor emergency procedures in a forest or wood products organisation	<p>3.1 Monitor workplace procedures for responding to emergency situations</p> <p>3.2 Review emergency and evacuation procedures after an emergency, and make suggestions to appropriate personnel about lessons learned and changes required</p>
4. Monitor and make recommendations for improving SHE procedures in a forest or wood products organisation	<p>4.1 Monitor compliance with workplace SHE procedures</p> <p>4.2 Monitor training and operational controls to ensure they reflect current SHE procedures</p> <p>4.3 Contribute to progress reviews to assess impact of workplace SHE procedures on workplace health, safety and environmental outcomes</p> <p>4.4 Make recommendations for integrating care for safety, health and the environment into all workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extract complex information from industry guides and standard references on workplace SHE
Writing	<ul style="list-style-type: none"> Complete workplace forms
Oral communication	<ul style="list-style-type: none"> Ask open and closed questions and use active listening techniques to gather information on SHE risks and hazards Provide oral reports on workplace SHE improvement measures
Numeracy	<ul style="list-style-type: none"> Interpret basic statistics on SHE performance

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOR4204 Monitor safety, health and environmental requirements in forest and wood products operations	FWPCOR4201 Monitor safety, health and environment policies and procedures	<p>Updated unit title</p> <p>Updated Elements, Performance Criteria, Foundation Skills, Performance Evidence and Knowledge Evidence to clarify and align requirements across sections</p> <p>Updated Assessment Conditions</p>	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOR4204 Monitor safety, health and environmental requirements in forest and wood products operations

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has monitored the implementation of safety, health and environmental (SHE) policies and procedures for one forestry or wood products operation to ensure compliance with legislative requirements, environmental management systems and workplace policies and procedures.

In performing this activity, the individual has reviewed and identified areas for improvement for at least three of the following, and made recommendations for improvements in relation to SHE compliance:

- organisation of duties, equipment and materials
- SHE hazards and associated risk in the work area
- documented workplace instructions and procedures
- SHE or incident reports
- emergency and evacuation procedures
- staff training and operational controls.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- applicable commonwealth, state or territory legislation, regulations, standards, codes of practice and established safe practices relevant to the full range of processes for monitoring SHE policies and procedures in forest or wood products organisations
- workplace standards, requirements, policies and procedures relevant to monitoring SHE policies and procedures in forest or wood products organisations
- monitoring SHE hazards and associated risks related to forest or wood products organisations:

- types and impact of SHE hazards and associated risks
- SHE hazard and associated risk identification
- ways of assessing and controlling hazards and associated risks
- processes for monitoring and assessing SHE hazards and associated risks
- processes for analysing work instructions, practices and procedures in relation to SHE risks and hazards
- monitoring emergency procedures in forest or wood products organisations:
 - workplace procedures for responding to emergency situations
 - reasons for monitoring emergency procedures
 - processes for monitoring emergency procedures
 - processes for conducting post-emergency reviews
- monitoring SHE procedures in forest or wood products organisations:
 - types and purpose of SHE procedures
 - processes for monitoring compliance with workplace SHE procedures
 - ways of integrating care for safety, health and the environment into all workplace procedures
- procedures for recording and reporting workplace information.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest or wood products work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - forest or wood products work environment to enable monitoring of SHE practices
 - workplace SHE records
- specifications:
 - workplace health, safety and environment policy and procedures
 - workplace safety and environmental policies and procedures applicable to forest or wood products operations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOR4205 Monitor and improve forestry operations

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to monitor and review forestry operations on a site with a view to recommending improvements to work practices, technologies and systems.

The unit applies to individuals whose job roles incorporate monitoring and reviewing forestry operations in a forest environment.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Core (COR)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Monitor forestry operations	1.1 Establish and maintain communication with others according to workplace procedures 1.2 Monitor tasks in a safe manner according to legislative requirements, environmental management systems and workplace and procedures

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	1.3 Monitor organisation of duties, practices, equipment and materials according to workplace health and safety requirements and workplace procedures
2. Review improvement opportunities for forestry operations	<p>2.1 Review operational plans and site practices for potential improvement, modifications and time savings</p> <p>2.2 Monitor and record community and organisational environmental goals</p> <p>2.3 Monitor training and operational controls to ensure they are in line with workplace procedures</p> <p>2.4 Record and report improvement recommendations, including resourcing requirements</p> <p>2.5 Establish action plan to introduce change in consultation with appropriate personnel</p>
3. Trial improvements to work practices, technologies and systems used in forestry operations	<p>3.1 Develop and trial new work practices, systems and technologies on site following workplace health and safety requirements and workplace requirements</p> <p>3.2 Check new work practices, systems and technologies for effective improvements or time savings</p> <p>3.3 Identify any modifications that are required and communicate these to appropriate personnel for implementation</p> <p>3.4 Monitor environment impact of new work practices, systems and technologies</p> <p>3.5 Conduct progress reviews to assess impact of new work practices, systems and technologies on personnel, the workplace and the environment</p> <p>3.6 Record and report outcomes of trial to appropriate personnel according to workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description

Skill	Description
Reading	<ul style="list-style-type: none"> Extract information from industry guides and standard references
Writing	<ul style="list-style-type: none"> Complete workplace forms Annotate site plans
Oral communication	<ul style="list-style-type: none"> Ask open and closed questions and use active listening techniques to clarify contents of work orders Provide oral reports of on-site improvement measures
Numeracy	<ul style="list-style-type: none"> Interpret basic statistics on workplace performance

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOR4205 Monitor and improve forestry operations	FWPCOR4202 Monitor and review forestry operations	Revised title Revised Elements and Performance Criteria Revised Performance Evidence Minor changes to Knowledge Evidence Revised Assessment Conditions	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOR4205 Monitor and improve forestry operations

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has monitored and improved one aspect of a forestry operation work site, selected from the following:

- work practices
- technologies
- environmental management and procurement systems.

In performing this activity, the individual has:

- sought input from team members on site practices and operational outcomes
- reviewed operational plans and procedures
- confirmed community and organisational goals
- identified potential improvements
- prepared and discussed draft action plan for change with appropriate personnel
- implemented changes as a trial and monitored outcomes according to the agreed action plan
- reported outcomes of trial to appropriate personnel.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- commonwealth, state or territory legislation, regulations, standards, codes of practice and established safe practices relevant to the full range of processes for monitoring and reviewing forestry operations
- environmental protection requirements in forestry operations, including:
 - environmental sustainability
 - protection of watercourses and water quality

- soil and salinity management
- reduction and disposal of waste
- energy efficiency
- biodiversity and habitat protection
- conservation of natural resources
- fire management
- workplace standards, requirements, policies and procedures relevant to monitoring and reviewing forestry operations
- sustainable procurement practices in forestry operations, including selecting products and services based on how they minimise and monitor their impact on the environment
- types, uses, operation and maintenance of equipment used in forestry operations
- forestry operations, techniques and technology, including:
 - improvement of timber technology methodologies
 - on-site forestry operations
 - ancillary forest operations
- environmental risks and hazard identification associated to forestry operations
- environmental management systems used in forestry operations, including:
 - compliance, improvement and prevention
 - continuous cycle of plan, implement, monitor, review and improve environmental practices and systems
- established communication channels and protocols in forestry operations
- procedures for recording and reporting workplace information.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - access to a forestry operation
- specifications:
 - workplace safety and environmental policies and procedures applicable to forestry operations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT2206 Stack and bind material

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to stack material, manually build packs and apply strapping and wrapping in a wood products processing setting.

The unit applies to sawmill workers, production workers or manufacturing assistants who undertake specified activities under the direction of more experienced workers.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for work	<p>1.1 Determine job requirements from work order and confirm on-site timber stack plan, seeking clarification from appropriate person where required</p> <p>1.2 Confirm safety requirements for the task according to workplace safety procedures</p> <p>1.3 Identify and control hazards according to workplace safety procedures to ensure safety of self and others and avoid loss of</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>materials</p> <p>1.4 Inspect and check the type, quantity and quality of material to be packed for grading and labelling</p> <p>1.5 Select, fit and use appropriate personal protective equipment (PPE)</p> <p>1.6 Select and use appropriate methods of communication to ensure on-site safety and product quality</p>
2. Build packs manually	<p>2.1 Check labelled material tallies against delivery or job description requirements</p> <p>2.2 Select appropriate bearers to create sufficient space for mechanical lifting equipment</p> <p>2.3 Build stacks and restrain timber according to workplace safety procedures</p> <p>2.4 Place specified spacing sticks and protective strips squarely, evenly and consistently throughout the stacks</p> <p>2.5 Manage maximum height, width and length of stacks according to workplace safety requirements</p> <p>2.6 Dispose of faulty material and bearers according to workplace environmental requirements</p> <p>2.7 Label finished packs according to workplace procedures</p>
3. Strap and wrap packs	<p>3.1 Strap and wrap finished packs according to workplace requirements</p> <p>3.2 Avoid wastage of strapping and packaging materials, and maximise use of recycled materials</p> <p>3.3 Tighten straps to prevent component slippage, strap breakage and damage to materials</p> <p>3.4 Dispose of excess packing material according to workplace and environmental requirements</p> <p>3.5 Record and report production problems, outcomes and equipment faults to appropriate person</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Oral communication	<ul style="list-style-type: none"> Ask questions and actively listen to clarify contents of work orders

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT2206 Stack and bind material	FWPCOT2201 Stack and bind material	Application clarified Performance Criteria sequenced and strengthened Foundation Skills and Assessment Requirements updated	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT2206 Stack and bind material

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has stacked and bound three different product packages, and has:

- built packs manually following workplace requirements for dimension, component numbers, end and vertical alignment and bearer quality
- built packs allowing adequate space for mechanical lifting and transporting
- identified standard size materials using visual assessment or measurement processes
- applied protective strips to packs
- applied wrapping to packs to prevent water penetration during storage and transportation
- strapped packs
- labelled packs ready for storage or transportation.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- workplace policies and procedures relevant to stacking and binding material
- methods of visual estimation, grading, colour identification and tagging of materials:
 - sawn or dressed finished timber
 - differing timber species
 - preservative treated timber, including water borne preservatives and light organic solvent preservatives (LOSP)
 - panel products, laminated veneer, chipboard, fibreboard, medium density fibreboard and boards made from material other than wood
 - panels with various treatments, coatings and hardware items
- range of industry standard lengths, cross sections, appearance grades and applicable terminology

- operational and functional features of tools, equipment and plant:
 - plant used for mechanically lifting and transporting packs
 - equipment and tools used for binding materials
- workplace safety requirements relevant to stacking and binding material:
 - erecting signs and exclusion zones
 - safe work method statements (SWMS)
 - hazardous manual handling
 - plant and assistive lifting equipment
- processes and techniques of:
 - building, wrapping and strapping timber packs
 - communicating and reporting
 - recording and reporting production outcomes and equipment faults
 - labelling products for identification
 - selecting correct bearer dimension
- workplace and environmental requirements for disposing of waste.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a manufacturing or processing facility or timber yard or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - three different products to pack and bind
 - tools, mechanical lifting equipment and packing equipment to stack, bind and protect contents
- specifications:
 - access to workplace safety and environmental policies and procedures applicable to stacking and binding material
 - access to workplace procedures and forms for recording and labelling
 - access to work orders applicable to stacking and binding product packages.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT2243 Tail out timber product and waste material

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to safely clear timber product and waste material as they emerge from a sawing or machining operation.

The unit applies to individuals who carry out tailing out functions in a timber processing or manufacturing facility.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for timber sawing or machining operation	1.1 Review work order and identify required finished timber sizes and quantities with the operator 1.2 Check sequence of cuts or machining passes with operator and work order when multiple cuts are required

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.3 Review workplace health and safety procedures, including the use of personal protective equipment, equipment lock-out and safe manual handling techniques</p> <p>1.4 Identify, assess and take actions to mitigate risks and hazards associated with tailing out timber products and waste material</p> <p>1.5 Identify workplace environmental protection procedures for minimising and disposing of waste material, cleaning tools and equipment, and maximising energy efficiency</p>
2. Maintain the process workflow	<p>2.1 Clear timber product to maintain the process workflow according to sawing or machining speed, workplace safety requirements and production plans</p> <p>2.2 Clear sawn waste regularly according to workplace procedures and environmental requirements</p> <p>2.3 Assess timber product against product standards and, when necessary, return to the operator for further processing</p> <p>2.4 Identify and report problems in workflow or processing of timber product to the operator for resolution</p> <p>2.5 Dispose of faulty or defective timber product according to workplace procedures and environmental requirements</p>
3. Sort finished timber product and complete work records	<p>3.1 Assess finished timber product for standard sizes according to workplace procedures</p> <p>3.2 Sort and stack finished timber product according to workplace procedures and specific operational requirements</p> <p>3.3 Segregate and store, or direct, recoverable timber product and waste for further processing according to workplace procedures</p> <p>3.4 Record and report production and timber product quality information according to workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description

Skill	Description
Reading	<ul style="list-style-type: none"> Reads workplace health and safety and environment policies to identify procedures for clearing sawn waste from work area
Writing	<ul style="list-style-type: none"> Completes basic written production reports and tally sheets
Oral communication	<ul style="list-style-type: none"> Responds to oral questions on routine matters related to output quality
Numeracy	<ul style="list-style-type: none"> Uses basic arithmetic skills to determine quantity and dimensions of tail out materials Uses standard units of measure to determine dimensions of finished product Interprets charts and graphical information to gather data on stress-grading and standard timber profiles and cross-sections
Interact with others	<ul style="list-style-type: none"> Participates in conversations to inform maintenance staff about equipment faults
Get the work done	<ul style="list-style-type: none"> Identifies and responds to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT2243 Tail out timber product and waste material	FWPCOT2205 Tail out materials	Updated unit code and title for clarity and compliance; edited machines required under assessment conditions	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT2243 Tail out timber product and waste material

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has:

- safely cleared sawn or machined timber product and waste from a saw or machine while maintaining process flow
- in doing the above job, the individual has:
 - identified work requirements in conjunction with the machine operator
 - followed work order and relevant workplace health and safety and environmental protection procedures
 - checked, sorted and stacked the finished product
 - disposed of waste material
 - completed production reports.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- workplace health and safety procedures for tailing out timber products:
 - standard operating procedure
 - personal protective equipment (PPE) requirements
 - procedures for safely disposing of waste material in an environmentally sustainable manner
- methods of controlling timber product:
 - timber product movement
 - position of the timber product being sawn or dressed
 - avoiding contact with saw or cutter
 - removing waste

- common work area and environmental hazards, risks and control techniques
- tailing out terminology, processes and procedures
- criteria for recycling and reusing material with faults or defects
- industry standard cross-section and length dimensions and tolerances
- communication channels and protocols used to ensure safety and productivity
- flow or control problems:
 - speed of production
 - flow of product
 - sharpness of blades or cutters
 - quality of materials
 - communication
 - housekeeping
 - burn marks
 - rough finish
 - tear out
 - machine marks
 - irregular size of the finished product
- mathematical procedures used to calculate timber size and dimension
- procedures for recording and reporting quality and production requirements.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing or manufacturing facility or an environment that accurately reflects workplace conditions
- resources, equipment and materials:
 - timber cutting or machining equipment used in a timber processing or manufacturing facility
 - PPE suitable for tailing out timber product and waste material
 - one or more of the following types of sawn or machined timber product for tailing out: flitches, cants, timber boards, other timber products
- specifications:
 - access to template documents for recording production outcomes
 - access to work order detailing required finished timber product sizes and production timelines
 - access to written workplace procedures for tailing out.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT2244 Operate and maintain a thicknesser

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to operate and maintain a thicknesser to dress timber.

The unit applies to individuals who operate timber dressing equipment in a timber processing or manufacturing facility.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for dressing process	1.1 Review work order and seek clarification from appropriate personnel as required 1.2 Review workplace health and safety procedures, including the use of personal protective equipment, equipment lock-out and safe manual

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>handling techniques</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with operating a thicknesser</p> <p>1.4 Identify workplace environmental protection procedures for minimising and disposing of waste material, cleaning tools and equipment, and maximising energy efficiency</p> <p>1.5 Check input timber to ensure supply and quality meets specification</p> <p>1.6 Prepare timber supplies for dressing operation to sustain production requirements</p> <p>1.7 Plan sequence of machining operations that suit multiple passes according to work order</p>
2. Operate thicknesser to dress timber	<p>2.1 Identify defective timber before dressing, and dispose of or recycle according to environmental protection practices</p> <p>2.2 Select cutting sequence</p> <p>2.3 Follow lock-out procedures and set guides, conveyors, speeds and feeds to suit required dimensions, cutting sequence, feed rates and finish</p> <p>2.4 Operate thicknesser according to workplace safety procedures, manufacturer instructions and environmental protection practices</p> <p>2.5 Maintain feed rate appropriate to timber condition and board size</p> <p>2.6 Regularly tally dressed timber against work orders</p> <p>2.7 Clear work area regularly according to workplace safety procedures</p>
3. Assess dressing conditions and maintain optimum dressing processes	<p>3.1 Assess dressing conditions regularly to ensure continuity of supply and processing</p> <p>3.2 Adjust conditions to optimise feed rate and maintain finished dimensions according to work order</p> <p>3.3 Evaluate finish regularly and adjust equipment to ensure product quality</p> <p>3.4 Measure and record dressed board dimensions regularly according to workplace procedures</p> <p>3.5 Identify and respond to routine processing and equipment faults according to workplace procedures</p> <p>3.6 Record and report production outcomes according to workplace</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	procedures
4. Complete operator maintenance	<p>4.1 Lock out equipment according to manufacturer instructions and workplace safety procedures</p> <p>4.2 Check cutters for bluntness or damage</p> <p>4.3 Remove and replace cutters according to manufacturer instructions</p> <p>4.4 Dispose of used cutters according to the workplace and environmental protection procedures</p> <p>4.5 Complete basic routine maintenance of equipment according to manufacturer instructions and workplace requirements</p> <p>4.6 Record and report equipment faults and maintenance according to workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Oral communication	<ul style="list-style-type: none"> • Responds to oral questions on routine matters related to output quality
Numeracy	<ul style="list-style-type: none"> • Performs routine arithmetic calculations to establish material quantities required for production • Identifies standard measurement units for speed and dimension used in manufacturer specifications • Recognises standard measures used in describing feed rate
Interact with others	<ul style="list-style-type: none"> • Participates in conversations to inform maintenance staff about equipment faults
Get the work done	<ul style="list-style-type: none"> • Identifies and responds to routine problems • Plans and organises own work activities and resources

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT2244 Operate and maintain a thicknesser	FWPCOT2207 Dress boards and timber	Revised application statement; modified element 2 sequence; updated unit code and title for clarity and compliance	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT2244 Operate and maintain a thicknesser

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has:

- set up, adjusted and operated a thicknesser to dress timber according to required dimensions, cutting sequence, feed rates and finish
- in doing the above job, the individual has:
 - reviewed work order to determine job requirements
 - followed work order and relevant workplace health and safety and environmental protection procedures
 - selected equipment and materials according to job requirements
 - planned the sequence of machine operations
 - identified and disposed of defective timber before processing
 - complied with workplace health and safety procedures relevant to dressing timber
 - assessed dressing conditions
 - adjusted conditions to optimise feed rate and maintain finished dimensions
 - completed basic routine equipment maintenance
 - completed production and maintenance reports.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- typical timber defects and potential impact on the quality of dressed timber product:
 - warp
 - wane
 - cupping
 - shakes

- insect defects
- knots
- resin pockets
- typical dressing problems triggering adjustment of process to ensure product quality:
 - blunt or damaged cutters
 - burn marks
 - extra cuts
 - excessive cutter marks
 - dimensional errors
- industry standards and terminology for timber profiles, lengths, cross-sections and tolerances
- types, purpose, features, operational procedures, components and basic maintenance requirements of thicknessers
- problems that can occur when dressing timber:
 - equipment faults and malfunctions
 - quality of product and machine settings
 - efficient rejection of defective timber before dressing
 - transfer and flow of material
 - dressing problems
 - feed rate
 - product finish
- methods for assessing cutters condition
- types of risk and hazards and mitigation measures associated with dressing timber
- workplace procedures specific to dressing timber:
 - workplace health and safety requirements, with particular emphasis on equipment lock-out, use of personal protective equipment (PPE) and safe manual handling
 - selection, use and maintenance of equipment
 - communication reporting lines
 - recording and reporting production outcomes and equipment faults
- environmental protection practices for timber processing or manufacturing facilities:
 - reducing water and energy use
 - cleaning plant, tools and equipment
 - disposing of, recycling and reusing timber.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing or manufacturing facility or an environment that accurately reflects workplace conditions
- resources, equipment and materials:

- thicknesser
- maintenance tools and equipment
- consumable components of thicknesser
- PPE suitable for dressing timber
- a diverse, comprehensive and commercial range of timber
- specifications:
 - template documents for recording production outcomes and equipment faults
 - manufacturer specifications and instructions for thicknesser
 - work order detailing material to be dressed, special client requirements and production timelines
 - written workplace procedures for operating and maintaining thicknesser.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT2246 Appearance grade hardwood sawn and milled products

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to visually assess hardwood sawn and milled products for classification into various appearance grades.

The unit applies to individuals who grade hardwood sawn and milled products in a timber processing or manufacturing facility.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for appearance grading	1.1 Review and clarify work order with appropriate personnel to determine hardwood sawn and milled products to be graded 1.2 Review workplace health and safety procedures, including the use

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>of personal protective equipment, equipment lock-out and safe manual handling techniques</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with grading hardwood sawn and milled products</p> <p>1.4 Identify workplace environmental protection procedures for minimising and disposing of waste material, cleaning tools and equipment, and maximising energy efficiency</p> <p>1.5 Obtain type, dimension and quantity of sawn and milled products to be graded from storage locations</p> <p>1.6 Select equipment, including lifting equipment, appropriate to work order and check for safety and operational effectiveness</p> <p>1.7 Establish and maintain communication with others at the workplace to ensure safety</p>
2. Appearance grade products	<p>2.1 Visually assess the size of sawn and milled products according to industry standards and estimated number of ranges</p> <p>2.2 Evaluate the characteristics of each product against industry standards for grade type</p> <p>2.3 Measure moisture content and evaluate against standards and seasoning requirements</p> <p>2.4 Mark product characteristics for docking</p> <p>2.5 Sort and label product according to grade classification</p> <p>2.6 Reject and redirect sub-standard product for recycling or other uses according to workplace and environmental protection procedures</p> <p>2.7 Record and report grading outcomes and distribution problems to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Oral communication	<ul style="list-style-type: none"> Responds to verbal questions on matters related to grading

Skill	Description
	decisions and reuse or recycling of rejected materials
Numeracy	<ul style="list-style-type: none"> Compares length of product with industry standard for cross-section Measures moisture content using a moisture meter Calibrates measuring equipment
Navigate the world of work	<ul style="list-style-type: none"> Understands main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> Conducts conversations relevant to the role by explaining and responding to questions Uses non-verbal modes of communication to convey information related to grading operations
Get the work done	<ul style="list-style-type: none"> Identifies and responds to routine problems Uses problem-solving skills to analyse product and process faults and decide on appropriate action

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT2246 Appearance grade hardwood sawn and milled products	FWPCOT2212 Grade hardwood sawn and milled products	Revised performance evidence and knowledge evidence for mapping and clarity; updated unit code and title to reflect changes and for compliance	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT2246 Appearance grade hardwood sawn and milled products

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has:

- appearance graded hardwood sawn products
- appearance graded hardwood milled products.

For each of the above jobs, the individual has:

- followed work order and relevant workplace health and safety and environmental protection procedures
- visually assessed and evaluated the characteristics of the product against industry standards for grading hardwood sawn and milled products
- measured and evaluated moisture content against standards and seasoning requirements
- marked, sorted and labelled product according to the correct grade classification
- recorded and reported grading activity.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- industry standards and safe practices for grading hardwood sawn and milled products
- risks and hazards associated with timber grading
- workplace procedures for grading hardwood sawn and milled products:
 - health and safety, with particular emphasis on equipment lock-out and the use of personal protective equipment (PPE)
 - communication reporting lines
 - recording and reporting grading outcomes
- criteria for recycling and reusing, and redirecting sub-standard product for other use
- timber characteristics to be checked

- methods of visual estimation, grading, colour identification and tagging
- industry standard for cross-sections and lengths
- sorting, marking and distribution procedures
- types, safe operation and maintenance of tools and equipment used in grading operations.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing or manufacturing facility or an environment that accurately reflects workplace conditions
- resources, equipment and materials:
 - hardwood sawn and milled products for grading
 - measuring equipment
 - moisture meters
 - lifting equipment for the movement of sawn and milled products
 - PPE suitable for grading hardwood sawn and milled products
- specifications:
 - templates for recording timber grading activities
 - work order detailing materials to be graded
 - workplace standards for grading hardwood sawn and milled products.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT2249 Visually stress grade hardwood

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to visually stress grade hardwood for strength against set classifications detailed in Australian Standard AS2082 as a minimum standard.

The unit applies to those who visually stress grade hardwood in a timber processing or manufacturing facility.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for stress-grading	1.1 Review work order to determine job requirements and, where required, seek clarification from appropriate personnel 1.2 Review workplace health and safety procedures, including the use of personal protective equipment, equipment lock-out and safe manual

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>handling techniques</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with visually stress-grading hardwood</p> <p>1.4 Identify workplace environmental protection procedures for minimising and disposing of waste material, cleaning tools and equipment, and maximising energy efficiency</p> <p>1.5 Establish and maintain communication with others at workplace to ensure safety</p>
2. Set up materials for stress grading	<p>2.1 Identify grading requirements according to workplace procedures, standards and specifications</p> <p>2.2 Select materials, hardware items, tools and equipment appropriate to work order, and check for operational effectiveness</p> <p>2.3 Position hardwood to be graded to provide appropriate access and facilitate efficient workflow</p> <p>2.4 Identify routine processing problems, and resolve or report to appropriate personnel</p>
3. Evaluate hardwood	<p>3.1 Identify species and defects and check status of seasoning</p> <p>3.2 Accurately record size and tolerance measurements according to workplace requirements</p> <p>3.3 Establish characteristics and evaluate according to standards and product specifications</p> <p>3.4 Measure moisture content and evaluate against standards and seasoning requirements</p>
4. Grade hardwood	<p>4.1 Visually stress grade hardwood based on standards for the required structural grade</p> <p>4.2 Diagnose and check characteristics with the greatest limiting effect on the grade</p> <p>4.3 Assess the appearance, and mark and segregate sub-standard material for disposal, reuse or recycling according to workplace procedures and environmental requirements</p> <p>4.4 Despatch graded material to appropriate storage location</p> <p>4.5 Record and report results of grading according to workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Numeracy	<ul style="list-style-type: none"> Estimates sizes of hardwood Measures sizes of hardwood
Navigate the world of work	<ul style="list-style-type: none"> Understands main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> Uses modes of communication suitable to purpose to confirm and clarify understanding

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT2249 Visually stress grade hardwood	FWPCOT2215 Visually stress grade hardwood	Updated performance criteria to reflect environmental and workplace health and safety requirements; updated foundation skills; added performance evidence and knowledge evidence to map to performance criteria; updated unit code to reflect changes and meet compliance	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT2249 Visually stress grade hardwood

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has visually stress graded hardwood and has:

- prepared for visual stress-grading of hardwood
- evaluated and visually stress graded hardwood in readiness for processing or storage
- followed work order and relevant workplace health and safety and environmental protection procedures
- accurately identified characteristics and defects in hardwood
- accurately interpreted grading standards and specifications
- communicated effectively with others at workplace
- followed workplace procedures, standards and codes of practice for visually stress-grading hardwood
- recorded and reported grading activity.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- regulations, standards, codes of practice and established safe practices for visually stress-grading hardwood
- workplace standards, policies and procedures for visually stress-grading hardwood
- risks and hazards associated with grading timber
- criteria for recycling and reusing sub-standard material
- visual stress-grading techniques and methods
- grading markings and standards
- characteristics and properties of hardwood
- structural grade of hardwood

- storage systems and labelling procedures
- disposal methods for timber with defects or contamination, including recycling, reusing and redirecting
- workplace communication channels and protocols
- procedures for recording and reporting workplace information
- strategies for identifying and resolving problems.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing or manufacturing facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - hardwood for visual stress-grading
 - vernier callipers
 - moisture meters (resistance and/or capacitance)
 - tapes
 - marking implements
 - personal protective equipment required for stress-grading hardwood
- specifications:
 - work order with specific instructions for visually stress-grading hardwood
 - workplace procedures for visually stress-grading hardwood
 - regulations, standards, codes of practice and established safe practices, including Australian Standard AS2082.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT2250 Visually stress grade softwood

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to visually stress grade softwood for strength against set classifications detailed in Australian Standard AS2858 as a minimum standard.

The unit applies to individuals who visually stress grade softwood in a timber processing and manufacturing facility.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for stress-grading	<p>1.1 Review work order to determine job requirements and, where required, seek clarification from appropriate personnel</p> <p>1.2 Review workplace health and safety procedures, including the use of personal protective equipment, equipment lock-out and safe manual</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>handling techniques</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with visually stress-grading softwood</p> <p>1.4 Identify workplace environmental protection procedures for minimising and disposing of waste material, cleaning tools and equipment, and maximising energy efficiency</p> <p>1.5 Identify grading requirements according to procedures, standards and specifications</p> <p>1.6 Select materials, hardware items, tools and equipment appropriate to work order, and check for operational effectiveness.</p> <p>1.7 Position softwood to be graded to provide appropriate access and facilitate efficient workflow</p> <p>1.8 Establish and maintain communication with others at workplace to ensure safety</p> <p>1.9 Identify routine processing problems, and resolve or report to appropriate personnel</p>
2. Evaluate softwood	<p>2.1 Identify species and defects and check status of seasoning</p> <p>2.2 Accurately record size and tolerance measurements according to workplace requirements</p> <p>2.3 Establish characteristics and evaluate against standards and product specifications</p> <p>2.4 Measure moisture content and evaluate against standards and seasoning requirements</p>
3. Grade softwood	<p>3.1 Visually stress grade softwood based on standards for the required structural grade according to workplace procedures</p> <p>3.2 Diagnose and check characteristics with the greatest limiting effect on the grade</p> <p>3.3 Assess the appearance, and mark and segregate material for disposal, reuse or recycling according to workplace procedures and environmental requirements</p> <p>3.4 Despatch graded material to storage location</p> <p>3.5 Record and report results of grading according to workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Numeracy	<ul style="list-style-type: none"> Estimates sizes of softwood Measures sizes of softwood Calibrates moisture meter
Navigate the world of work	<ul style="list-style-type: none"> Understands main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> Uses modes of communication suitable to purpose to confirm and clarify understanding

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT2250 Visually stress grade softwood	FWPCOT2216 Visually stress grade softwood	Reworded application statement; updated performance criteria to reflect environmental and workplace health and safety requirements; updated foundation skills; added performance evidence and knowledge evidence to map to performance criteria; updated unit code to reflect changes and meet compliance	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT2250 Visually stress grade softwood

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has visually stress graded softwood and has:

- prepared for evaluation and visual stress-grading of softwood
- followed work order and relevant workplace health and safety and environmental protection procedures
- evaluated and visually stress graded softwood in readiness for processing or storage
- accurately identified characteristics and defects in softwood
- accurately interpreted grading standards and specifications
- communicated effectively with others at the workplace
- followed workplace procedures, standards and codes of practice for visually stress-grading softwood
- recorded and reported grading activity.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- regulations, standards, codes of practice and established safe practices for visually stress-grading softwood, including Australian Standard AS2858
- workplace procedures for visually stress-grading softwood
- risks and hazards associated with grading timber
- criteria for recycling and reusing sub-standard material
- visual stress-grading techniques and methods
- grading markings and standards
- characteristics, defects and properties of softwood
- structural grade of softwood

- storage systems and labelling procedures
- disposal methods for timber with defects or contamination, including recycling, reusing and redirecting
- workplace communication channels and protocols
- procedures for recording and reporting workplace information
- strategies for identifying and resolving problems.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing or manufacturing facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - softwood for visual stress-grading
 - vernier callipers
 - moisture meters (resistance and/or capacitance)
 - tapes
 - marking implements
 - personal protective equipment required for stress-grading softwood
- specifications:
 - work order with specific instructions for visually stress-grading softwood
 - workplace procedures for visually stress-grading softwood
 - regulations, standards, codes of practice and established safe practices, including Australian Standard AS2858.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT2251 Visually stress grade cypress

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to visually stress grade Australian white cypress (*Callitris glaucophylla*) for strength against set classifications detailed in Section 3 of the Australian Standard AS2858 as a minimum standard.

The unit applies to individuals who visually stress grade cypress in a timber processing and manufacturing facility.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for stress-grading	1.1 Review work order to determine job requirements and, where required, seek clarification from appropriate personnel 1.2 Review workplace health and safety procedures, including the use of personal protective equipment, equipment lock-out and safe manual

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>handling techniques</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with visually stress-grading cypress</p> <p>1.4 Identify workplace environmental protection procedures for minimising and disposing of waste material, cleaning tools and equipment, and maximising energy efficiency</p> <p>1.5 Identify grading requirements according to workplace procedures, standards and specifications</p> <p>1.6 Select materials, hardware items, tools and equipment appropriate to work order, and check for operational effectiveness</p> <p>1.7 Position cypress to be graded to provide appropriate access and facilitate efficient workflow</p> <p>1.8 Establish and maintain communication with others at workplace to ensure safety</p> <p>1.9 Identify routine processing problems, and resolve or report to appropriate personnel</p>
2. Evaluate cypress	<p>2.1 Identify species and defects, including contamination, and check status of seasoning</p> <p>2.2 Accurately record size and tolerance measurements according to workplace requirements</p> <p>2.3 Establish characteristics and evaluate against standards and product specifications</p> <p>2.4 Measure moisture content and evaluate against standards and seasoning requirements</p> <p>2.5 Redirect timber with inappropriate defects or contamination for energy recovery</p>
3. Grade cypress	<p>3.1 Visually stress grade cypress based on standards for the required structural grade according to workplace procedures</p> <p>3.2 Diagnose and check characteristics with the greatest limiting effect on the grade</p> <p>3.3 Assess the appearance, and mark and segregate sub-standard material for disposal, reuse or recycling according to workplace procedures and environmental requirements</p> <p>3.4 Despatch graded material to appropriate storage location</p> <p>3.5 Record and report results of grading according to workplace</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Numeracy	<ul style="list-style-type: none"> Estimates timber sizes Measures timber sizes Uses standard units of measurements when estimating and measuring timber
Navigate the world of work	<ul style="list-style-type: none"> Understands main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> Uses modes of communication suitable to purpose to confirm and clarify understanding

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT2251 Visually stress grade cypress	FWPCOT2217 Visually stress grade cypress	Reworded application statement; updated performance criteria to reflect environmental and workplace health and safety requirements; updated foundation skills; added performance evidence and knowledge evidence to map to performance criteria; updated unit code to reflect changes and meet compliance	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT2251 Visually stress grade cypress

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has visually stress graded cypress, and has:

- prepared for visually stress-grading cypress
- followed work order and relevant workplace health and safety and environmental protection procedures
- evaluated and visually stress graded cypress in readiness for processing or storage
- accurately identified characteristics and defects in cypress
- accurately interpreted grading standards and specifications
- worked safely and communicated effectively with others at the work site
- followed workplace policies and procedures, standards and codes of practice for visually stress-grading cypress
- recorded and reported grading activity.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- regulations, standards, codes of practice and established safe practices for visually stress-grading cypress, including Australian Standard AS2858
- workplace standards, policies and procedures for visually stress-grading cypress
- risks and hazards associated with grading timber
- grading markings and standards
- characteristics and properties of cypress
- visual stress-grading techniques and methods
- structural grade: structural conformity of the timber, consistency of the structural quality, and defects that may weaken strength, including knots, shakes and short grain

- appearance of contamination, surface characteristics and grain pattern
- criteria for recycling and reusing sub-standard material
- recycling timber with inappropriate defects or contamination
- reusing timber with inappropriate defects or contamination
- redirecting timber with inappropriate defects or contamination for energy recovery
- storage systems and labelling procedures
- workplace communication channels and protocols
- procedures for recording and reporting workplace information
- strategies for identifying and resolving problems.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing or manufacturing facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - cypress for visual stress-grading
 - work order, workplace requirements and site standards for visually stress-grading cypress
 - vernier callipers
 - moisture meters (resistance and/or capacitance)
 - tapes
 - marking implements
 - personal protective equipment required for visually stress-grading cypress
- specifications:
 - work order with specific instructions for visually stress-grading cypress
 - workplace procedures for visually stress-grading cypress
 - regulations, standards, codes of practice and established safe practices, including Australian Standard AS2858.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT2254 Maintain chainsaws

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the knowledge and skills required to maintain fuel or electrically powered hand-held chainsaws. The unit includes completing routine maintenance service as well as periodic maintenance servicing and chain sharpening.

The unit applies to individuals who maintain chainsaws for or as part of arboriculture, forestry, horticulture, agriculture, conservation and land management, local government, emergency services and other government agency operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for chainsaw maintenance	1.1 Determine maintenance requirements from work order or instruction and, where required, seek clarification from appropriate personnel

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.2 Confirm safety and environmental requirements for the task according to workplace procedures</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with chainsaw maintenance activities</p> <p>1.4 Plan chainsaw maintenance activities according to manufacturer and workplace requirements</p> <p>1.5 Consult with team members and other appropriate personnel to ensure that chainsaw maintenance activities are coordinated effectively with others in the workplace</p> <p>1.6 Obtain tools and equipment needed for the chainsaw maintenance activities, and check for correct operation and safety</p> <p>1.7 Select, fit and use personal protective equipment</p>
2. Complete chainsaw maintenance	<p>2.1 Follow workplace safety procedures and manufacturer instructions to lock out equipment</p> <p>2.2 Complete routine and frequently required service requirements on chainsaws according to manufacturer instructions and workplace requirements</p> <p>2.3 Complete periodic service requirements on chainsaws according to manufacturer recommendations and workplace requirements</p> <p>2.4 Check chain for bluntness or damage</p> <p>2.5 Remove, sharpen, adjust and replace chain and other components according to manufacturer requirements</p> <p>2.6 Identify, diagnose, tag and report chainsaw faults, malfunctions or irregular operation for repair or replacement</p> <p>2.7 Reassemble serviced chainsaw components, check for operational effectiveness, apply lock-out tag as required and store</p>
3. Complete maintenance records and clean up	<p>3.1 Clear and clean work area according to workplace procedures</p> <p>3.2 Clean, inspect for serviceability and store tools and equipment</p> <p>3.3 Dispose of, recycle or reuse waste materials according to workplace requirements and environmental protection practices</p> <p>3.4 Complete, process and maintain records and reports according to workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret workplace documentation to determine requirements
Writing	<ul style="list-style-type: none"> Use technical and workplace specific vocabulary to accurately and legibly complete workplace records and forms
Oral communication	<ul style="list-style-type: none"> Ask questions and actively listen to clarify contents of work plans
Numeracy	<ul style="list-style-type: none"> Calculate ratios and measure quantities of oils and fuels

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT2254 Maintain chainsaws	FWPCOT2237 Maintain chainsaws	Clarified Application Updated and added new Performance Criteria Added new knowledge items Updated Foundation Skills, Performance Evidence and Assessment Conditions	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT2254 Maintain chainsaws

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on one occasion, the individual has:

- completed the routine and frequently required service requirements for one chainsaw according to manufacturer instructions
- completed the periodic service requirements for one chainsaw according to manufacturer instructions
- checked and sharpened at least two chains according to manufacturer instructions.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- types, purpose, features and operation of chainsaws
- features and names of different parts of fuel powered and electrically powered chainsaws
- purpose, features and operation of tools and equipment used in chainsaw maintenance activities
- specifications and types of bars, chains and sprockets
- differences between frequent and periodic chainsaw maintenance requirements
- techniques for:
 - removing chains and other chainsaw components
 - assessing chain condition
 - sharpening chains to specified requirements
 - reassembling chainsaw components
 - assessing battery condition, if applicable, and visually inspecting state of electrical cords and plugs for electrically powered chainsaws
- hazards associated with maintaining chainsaws, and methods to minimise associated risks:
 - noise
 - fumes

- mechanical vibration
- hazardous substances
- cuts
- burns
- rotating parts
- electric shock for electrically powered chainsaws
- workplace procedures specific to maintaining chainsaws:
 - workplace health and safety, with particular emphasis on equipment lock-out, use of personal protective equipment (PPE) and safe manual handling
 - communication reporting lines
 - recording and reporting repairs, maintenance activities and equipment faults
- environmental protection practices relevant to maintaining chainsaws:
 - cleaning plant, tools and equipment
 - disposing of, recycling and reusing materials
 - disposing of hazardous substances.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a workplace location or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - fuel or electrically powered hand-held chainsaws
 - tools and equipment used to maintain chainsaws
 - consumable chainsaw parts, oil and fuel
 - PPE required in chainsaw maintenance activities
- specifications:
 - access to work order or instruction detailing chainsaw maintenance activities to be carried out by operator
 - access to workplace safety and environmental policies and procedures applicable to chainsaw maintenance activities
 - access to workplace standard operating procedures or operator manual for chainsaws.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT2255 Store materials

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to receive, check conformity and store packs of timber and timber products in a timber racking system and storage bay.

The unit applies to sawmill workers, production workers or manufacturing assistants who undertake specified activities under the direction of more experienced workers.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Receive materials	1.1 Determine job requirements from work order or instructions, and where required, seek clarification from appropriate person 1.2 Confirm safety and environmental requirements for the task according to workplace procedures 1.3 Select, fit and use personal protective equipment (PPE) 1.4 Release or unbind packs in a clear area to avoid obstruction of

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	walkways, personal injury and damage to material 1.5 Check material tallies against job quantity list and conformity against product specification 1.6 Report packs not meeting work order requirements or containing contaminated material to appropriate person
2. Prepare for storage	2.1 Determine method of handling products, and select lifting equipment or request assistance with lifting 2.2 Inspect and check the type and quantity of material for grading, labelling and storage 2.3 Sort and safely place materials to be stored on a stand, frame or on the ground 2.4 Regularly clear area of packing and loose material according to workplace safety requirements 2.5 Select and isolate required storage locations according to workplace procedures
3. Categorise, store and record materials	3.1 Separate material into grade, size, quality and category to meet product specification 3.2 Designate and label storage locations and safely store materials in designated areas 3.3 Discard material not meeting quality standard requirements 3.4 Complete and maintain records according to workplace procedures
4. Clean up	4.1 Clean work area and dispose of, recycle or reuse leftover material according to workplace environmental requirements 4.2 Clean and maintain tools, and report any faulty or damaged tools 4.3 Return tools and equipment to allocated storage areas

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
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Skill	Description
Reading	<ul style="list-style-type: none"> Interpret relevant information from workplace documentation to safely handle and store materials
Oral communication	<ul style="list-style-type: none"> Ask questions and actively listen to clarify contents of work orders

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT2255 Store materials	FWPCOT2228 Store materials	Application clarified Element added and Performance Criteria re-sequenced Foundation Skills and Assessment Requirements updated	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT2255 Store materials

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has received, prepared and stored a minimum of three packs containing different products into an allocated storage area, and:

- visually checked product for alignment with quality and grade
- applied manual or mechanical handling techniques according to workplace safety procedures.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- workplace policies and procedures relevant to receiving and storing timber products
- methods of visual estimation, grading, colour identification and tagging
- industry standard lengths, cross sections, appearance grades of timber products
- processes, procedures and techniques for storing timber and timber products
- workplace safety requirements relevant to storing timber materials:
 - personal protective equipment (PPE)
 - hazardous manual handling
 - exposure to dust
- requirements for disposing of waste according to workplace safety and environmental procedures
- purpose, features and operation of lifting equipment:
 - fork lifts
 - slings
 - trolley jacks
 - gantry cranes
 - loaders
- procedures for recording and reporting receipt of stock.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber manufacturing or processing facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - packs of timber products
 - mechanical lifting equipment
 - PPE
- specifications:
 - access to workplace environmental policies and procedures relating to disposal of waste applicable to storing timber materials
 - access to work orders and workplace safety procedures relating to handling and storing timber materials
 - access to workplace procedures and forms for storing and recording storage outcomes
- relationships:
 - team members/supervisor to confirm work orders and report work-related issues.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT2257 Use hand-held tools

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to select and use a variety of manual and powered hand-held tools for various tasks and complete basic non-specialist maintenance.

The unit applies to production workers, manufacturing assistants, timber manufacturing workers and sawmill workers who undertake specified activities under the direction of more experienced workers.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to use hand-held tools	1.1 Determine job requirements from work order or instruction and, where required, confirm with appropriate person 1.2 Confirm safety requirements for using hand-held tools according to workplace safety procedures 1.3 Select, fit and use personal protective equipment (PPE)

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.4 Select hand-held tools appropriate for tasks and check for serviceability and safe operation according to manufacturer instructions</p> <p>1.5 Identify unsafe, faulty or damaged tools, remove from service and mark for repair or replacement according to workplace procedures</p>
2. Operate and maintain hand-held tools	<p>2.1 Use hand and power tools according to workplace safety procedures and manufacturer instructions</p> <p>2.2 Apply appropriate techniques when using tools to produce required production outcomes</p> <p>2.3 Check tool operation regularly to assess need for sharpening and other maintenance requirements</p> <p>2.4 Complete basic non-specialist maintenance for hand and power tools according to manufacturer recommendations and workplace safety procedures</p> <p>2.5 Record and report tool faults, serviceability issues and maintenance requirements to appropriate person</p>
3. Clean up	<p>3.1 Clean work area and dispose of, recycle or reuse leftover material according to workplace environmental policies and procedures</p> <p>3.2 Clean and maintain hand-held tools, and report any faulty or damaged tools</p> <p>3.3 Store tools according to workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret relevant information from workplace and manufacturer documentation to safely use and maintain hand-held tools
Oral communication	<ul style="list-style-type: none"> Ask questions and actively listen to clarify work orders or job task instructions

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT2257 Use hand-held tools	FWPCOT2219 Use hand-held tools	Application clarified Element added Performance Criteria Foundation Skills and Assessment Requirements reviewed and updated	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT2257 Use hand-held tools

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has selected and safely used the correct hand-held tools for at least three wood product processing or manufacturing tasks.

In doing this, the individual has:

- selected, fitted and correctly used personal protective equipment (PPE)
- used at least three of the following tools:
 - handsaw
 - knife
 - chisel
 - hammer
 - hand drill
 - file
 - rasp
- used each of the following power or battery operated tools:
 - drill
 - grinder
 - sander
 - saw
 - nail gun
- used tools according to manufacturer instructions
- completed basic non-specialist maintenance for each of the tools used, according to manufacturer recommendations to:
 - sharpen
 - clean
 - lubricate
 - tighten
 - adjust

- check consumable components for bluntness, wear and other damage
- remove and replace consumable components.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- types of hand and power tools, and their functional and operational features:
 - techniques and safe use
 - non-specialist repair and maintenance
 - identifying and tagging faulty/damaged equipment
- battery operated power tools
- workplace safety requirements relevant to using hand-held manual and powered tools:
 - PPE
 - electrical hazards – use of residual current devices (RCD)
 - equipment lock-out
 - exposure to dust
 - exposure to excessive noise
- workplace procedures relevant to using, maintaining and storing hand-held-tools
- manufacturer specifications and operating instructions for hand-held tools
- environmental requirements for disposing of waste and used consumables relevant to using hand-held tools
- recording and reporting equipment faults and maintenance requests according to workplace or manufacturer policies and procedures.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber manufacturing or processing facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - manual and powered hand-held tools according to the Performance Evidence
 - PPE
- specifications:
 - access to work orders or instructions detailing wood product processing tasks to be conducted by the operator
 - access to workplace safety and environmental policies and procedures applicable to using manual and powered hand-held tools
 - access to manufacturer specifications and operator instructions for use and maintenance of manual and powered hand-held tools

- relationships:
 - person to confirm work orders and job tasks and report issues with workplace safety or hand-held tools to.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT2258 Assemble products

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to assemble construction-ready timber products. This unit includes preparing for assembly work, assembling timber products, installing assembly hardware and stacking, strapping and labelling timber products ready for transportation.

The unit applies to individuals who assemble products in a timber product manufacturing facility.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for assembly work	1.1 Determine job requirements from work order or instruction and construction plans and, where required, seek clarification from appropriate person 1.2 Confirm safety requirements for the task according to workplace safety procedures 1.3 Identify, assess and take actions to mitigate risks and hazards

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>associated with the assembly of timber products</p> <p>1.4 Identify workplace environmental requirements for minimising and disposing of waste material, recycling and reusing materials and cleaning tools and equipment</p> <p>1.5 Consult with team members and other appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.6 Locate tools and equipment needed for the work, and check for correct operation and safety</p> <p>1.7 Identify and obtain the type and quantity of material and hardware to be assembled</p> <p>1.8 Select, fit and use personal protective equipment</p> <p>1.9 Identify and prepare set-up jigs required for assembly</p>
2. Set up timber components	<p>2.1 Select timber components from the pre-cut materials list</p> <p>2.2 Reject material with defects and dispose of following environmental requirements</p> <p>2.3 Use equipment following workplace safety requirements and manufacturer instructions</p> <p>2.4 Position and clamp timber components in jigs ready for joining, and check for allowable faults, joins and grain according to construction standards and grading rules</p>
3. Install assembly hardware	<p>3.1 Position and install hardware on joints according to construction plans</p> <p>3.2 Identify and correct assembly faults as required</p> <p>3.3 Identify routine processing and equipment faults and resolve or report to appropriate personnel</p>
4. Prepare timber products for despatch and report	<p>4.1 Check finished timber product for quality, and label according to work order</p> <p>4.2 Remove timber product from jigs and safely stack in a designated location</p> <p>4.3 Strap, pack and label finished timber products ready for transportation</p> <p>4.4 Avoid wastage of strapping and packaging materials and maximise use of recycled materials</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	4.5 Complete quality records and report production outcomes, equipment faults and maintenance requirements according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extract relevant product information and job requirements from organisational and workplace documentation
Writing	<ul style="list-style-type: none"> Complete basic clear labels for product identification and transportation Use industry terminology to accurately complete records
Oral communication	<ul style="list-style-type: none"> Ask questions and actively listen to clarify contents of work plans Use clear and unambiguous language to coordinate work with team members
Numeracy	<ul style="list-style-type: none"> Count individual components and hardware and add together to calculate total quantities of appropriate sizes Complete routine calculations for component layouts

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT2258 Assemble products	FWPCOT2230 Assemble products	Application and Foundation Skills updated and reworded Performance Criteria updated and re-sequenced Performance Evidence and Knowledge Evidence	Equivalent

Code and title current version	Code and title previous version	Comments	Equivalence status
		updated and reworded Assessment Conditions updated	

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT2258 Assemble products

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has, on three different occasions:

- assembled one or more timber products from the following list:
 - pallets
 - crates
 - trellis
 - stairs
 - doors
 - windows
 - beams
- prepared the timber products for transportation
- completed associated workplace documents
- followed work order or instruction, policies and procedures and current workplace safety and environmental requirements in completing the task

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- workplace environmental requirements for assembling timber products
- regulations and standards related to timber products and grading
- workplace safety requirements for assembling timber products:
 - personal protective equipment (PPE)
 - equipment lock-out
 - use of equipment
 - electrical hazards
 - hazard identification and control measures

- exposure to excessive noise
- exposure to dust
- methods, processes and techniques for:
 - assembly sequences
 - storage layout and stacking finished timber products
- workplace requirements for recording and reporting production outcomes and equipment faults
- typical timber component defects and how these affect the ability to produce a quality finished product:
 - warp
 - wane
 - cupping
 - shakes
 - insect defects
 - knots
 - resin pockets
- typical assembly faults triggering a correction to ensure timber product quality:
 - incorrectly positioned joints
 - timber splits from nailing
 - incorrectly positioned hardware
- types, purpose, features and operation of tools, equipment and assembly hardware used for assembling timber products:
 - measuring equipment
 - assembly jigs
 - staple guns
 - nail guns
 - compressed air safety and operation
 - marking equipment
 - strapping equipment
 - nail gun nails
 - staples.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber product manufacturing facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - tools and equipment used to assemble timber products

- assembly hardware
- PPE suitable for assembling timber products
- pre-cut sections of timber for using to assemble timber products
- specifications:
 - access to work order or instruction detailing timber products to be assembled by operator
 - access to timber product construction plans
 - access to workplace safety and environmental policies and procedures applicable to timber product assembly
 - access to workplace procedures and forms for recording production outcomes and equipment maintenance and faults
 - manufacturer specifications for equipment used to assemble timber products.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT2259 Cut materials with a hand-held chainsaw

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to prepare and cut timber and polymer materials with a hand-held chainsaw. This unit includes preparing for work, cutting materials, maximising volume and quality of recovery material, and performing routine operator maintenance.

The unit applies to individuals who cut materials with a hand-held chainsaw in a variety of work settings, including sawmills, forest product manufacturing facilities, timber yards, horticultural environments, construction, polymer processing and other manufacturing settings.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for operation	1.1 Determine job requirements from work order or instruction and, where required, seek clarification from appropriate person 1.2 Confirm safety requirements for the task according to workplace safety procedures

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with using a hand-held chainsaw</p> <p>1.4 Identify workplace environmental requirements for minimising and disposing of waste material, recycling and reusing materials and cleaning tools and equipment</p> <p>1.5 Consult with team members and other appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.6 Locate hand-held chainsaw and other support equipment needed for the work and check for correct operation and safety</p> <p>1.7 Select, fit and use personal protective equipment</p> <p>1.8 Conduct pre-start-up checks of saw to determine serviceability according to manufacturer instructions</p>
2. Cut material	<p>2.1 Assess materials visually to identify defects that may present unsafe work conditions, and review cutting plan</p> <p>2.2 Place cutting supports to ensure a stable base</p> <p>2.3 Cut materials within workplace standard tolerances for length and angle relative to centre line</p> <p>2.4 Use cutting techniques to cut materials to industry standard lengths, maximising volume and quality of recovery material</p> <p>2.5 Operate chainsaw effectively according to manufacturer recommendations</p> <p>2.6 Clear and dispose of debris according to workplace procedures and environmental requirements</p> <p>2.7 Complete production and quality reports according to workplace procedures</p> <p>2.8 Identify processing problems and equipment faults and report to appropriate personnel</p>
3. Perform routine operator maintenance	<p>3.1 Isolate, clean and maintain chainsaw according to manufacturer recommendations and workplace procedures</p> <p>3.2 Identify blunt or damaged chain, and remove, replace or sharpen and adjust chain according to workplace procedures and manufacturer recommendations</p> <p>3.3 Record and report maintenance activities to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extract relevant information and job requirements from relevant documentation
Writing	<ul style="list-style-type: none"> Use technical and workplace specific vocabulary to accurately and legibly complete workplace records and forms
Oral communication	<ul style="list-style-type: none"> Ask open and closed probing questions and actively listen to clarify job requirements Give clear and sequenced information and ask clarifying questions when coordinating tasks with team members and others

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT2259 Cut materials with a hand-held chainsaw	FWPCOT2238 Cut materials with a hand-held chainsaw	Application wording updated Element reworded and Performance Criteria reviewed, updated and re-sequenced Foundation Skills and Assessment Requirements reviewed and updated	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT2259 Cut materials with a hand-held chainsaw

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has:

- assessed and cut twenty individual pieces of material with a hand-held chainsaw to industry standard lengths, maximising volume and quality of recovery material
- followed a work order or instruction, workplace policy and procedures and current workplace safety and environmental requirements in completing the task
- inspected and carried out routine operator maintenance on one hand-held chainsaw.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- industry standards related to the safe use of hand-held chainsaws
- workplace environmental requirements for safe disposal of waste material
- workplace safety requirements related to the use of a hand-held chainsaw to cut materials:
 - hazards and control measures
 - exposure to dust
 - hazardous manual tasks
 - personal protective equipment (PPE)
- functions and operation of a hand-held chainsaw:
 - procedures, checks, start-up and shut-down procedures
 - capability and limitations
- communication channels and protocols to maintain safety
- types of defects in materials that can affect processing and cause risk
- workplace requirements for recording and reporting workplace and operational information.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a manufacturing or processing facility, timber yard, horticultural setting or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - a hand-held chainsaw and maintenance tools and equipment
 - PPE
 - materials for cutting
- specifications:
 - access to work order or instruction detailing the cutting activity to be conducted by operator
 - access to workplace safety and environmental policies and procedures applicable to cutting materials using a hand-held chainsaw
 - access to workplace procedures and forms for recording production outcomes and hand-held chainsaw maintenance and faults
 - manufacturer specifications for hand-held chainsaw
- relationships:
 - person to confirm work orders, coordinate workplace tasks and report maintenance activities.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT2260 Tally material

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to prepare and record manual or electronic tallies of finished material packs and contents of their individual pieces.

The unit applies to production workers, sawmill workers, manufacturing assistants and timber products workers who undertake specified activities under the instruction of more experienced workers.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for tallying	1.1 Determine job requirements from work order or instruction and, where required, seek clarification with appropriate person 1.2 Identify location of material to be tallied and arrange access according to workplace procedures 1.3 Select tallying tools according to materials being tallied and workplace procedures

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.4 Identify and control workplace hazards according to workplace safety procedures to ensure safety of self and others</p> <p>1.5 Select, fit and use personal protective equipment (PPE)</p> <p>1.6 Plan tallying activities according to work order, and to ensure continuous workflow</p>
2. Record piece or pack details	<p>2.1 Count pieces and packs and legibly and accurately record according to workplace procedures</p> <p>2.2 Clear work area regularly according to workplace safety and environmental requirements to maintain a safe and efficient workflow</p> <p>2.3 Monitor and replace supply levels of tally sheets, bar coding material or other tallying documentation</p> <p>2.4 Check packs to ensure conformance with quality specifications and work orders</p> <p>2.5 Identify non-conforming or and damaged material, and report to appropriate personnel</p> <p>2.6 Record and report tallying results manually or electronically according to workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Identify and interpret essential tallying information from workplace procedures and work orders
Oral communication	<ul style="list-style-type: none"> Ask questions and actively listen to clarify work orders or instructions Use clear and concise language and industry and workplace specific terminology when reporting operational or product issues
Numeracy	<ul style="list-style-type: none"> Count and tally numbers of product pieces and packs Complete routine tallying for timber volumes or lineal metres in a pack Input accurate numerical data for routine tallying records and

Skill	Description
	reports

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT2260 Tally material	FWPCOT2210 Tally material	Minor grammatical and editorial changes to Application and Performance Criteria Foundation Skills reviewed Assessment Requirements reviewed and updated	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT2260 Tally material

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has:

- completed tallying of at least two different work orders including both timber and hardware items and fittings, and has also completed a tallying task for either:
 - a pack of random timber cross-sections, lengths or panel sizes or
 - a pack of set timber cross-sections, lengths or panel sizes
- completed tally sheets or electronic records for each tallying job
- completed records for non-conformances and damaged material identified during each tallying job.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- manual and electronic methods used to tally material in a forest product processing setting
- format, content and use of industry and workplace specific procedures to record and report tallies
- industry standard sizing and names for timber, timber profiles and boards
- industry and workplace standards and specifications for packaging timber products
- features of non-conformant packs
- purpose, features and use of tools for tallying in a forest products processing setting, including:
 - cyclic or periodic stocktaking
 - electronic bar coding equipment
 - manual tally sheets
- workplace procedures relevant to tallying material:
 - communication reporting lines
 - recording and reporting non-conformances and damaged material

- recording and reporting tallying results
- workplace safety requirements relevant to tallying materials:
 - hazard identification and controls
 - personal protective equipment (PPE)
 - manual handling.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber manufacturing or processing facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - timber packs, timber and hardware items and fittings for tallying
 - PPE
 - tallying and recording tools and equipment
- specifications:
 - access to work orders or instructions detailing the tallying activity to be conducted
 - access to workplace safety and environmental policies and procedures applicable to tallying materials
 - access to workplace procedures and forms for recording tallies
- relationships:
 - person to confirm work orders and report production and quality issues.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT2261 Process orders and prepare for despatch

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to process orders, select, compile and wrap products, and prepare orders for despatch.

The unit applies to sawmill workers, production workers and manufacturing assistants who undertake specific activities under the direction of more experienced workers.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for product orders	<p>1.1 Determine job requirements from work order and consignment documentation, seeking clarification from appropriate person where required</p> <p>1.2 Plan, schedule and sequence order processing according to workplace procedures</p> <p>1.3 Confirm safety requirements for task according to workplace safety procedures</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	1.4 Select, fit and use personal protective equipment (PPE)
2. Process orders	<p>2.1 Identify product location in warehouse and check against order documentation using product knowledge, labels and other identification systems</p> <p>2.2 Pick order according to workplace order picking method and sequence</p> <p>2.3 Use order picking equipment to lift and transport order for loading</p> <p>2.4 Separate and compile order at loading unit according to order documentation and despatch schedule</p> <p>2.5 Stack order load to avoid damage during transportation</p> <p>2.6 Wrap order load as required by reusing or recycling materials and offcuts where possible</p>
3. Prepare products for despatch	<p>3.1 Complete records for despatch and product movement according to work order and workplace procedures</p> <p>3.2 Complete, attach and check load labels and documentation according to workplace procedures</p> <p>3.3 Notify despatcher to coordinate product loading</p> <p>3.4 Explain transportation requirements to despatcher according to workplace procedures</p> <p>3.5 Update stock records according to workplace requirements</p> <p>3.6 Record order and despatch problems, and report to appropriate person</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Identify amount and volume of products and despatch requirements from product order
Writing	<ul style="list-style-type: none"> Use required industry and workplace specific vocabulary to accurately and legibly complete despatch and product movement

Skill	Description
	records
Oral communication	<ul style="list-style-type: none"> Ask questions and actively listen to clarify work orders and consignment documentation Provide clear and concise instructions, directions and information to despatcher
Numeracy	<ul style="list-style-type: none"> Determine volume and quantity from product order Calculate product loads to attach load labels Input accurate numerical data into stock records

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT2261 Process orders and prepare for despatch	FWPCOT2227 Process orders and despatch products	Retitled Application wording updated Elements and Performance Criteria reworded Foundation Skills, Performance Evidence and Knowledge Evidence updated Assessment Conditions reviewed and updated	Not Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT2261 Process orders and prepare for despatch

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has safely and accurately processed orders and prepared products for despatch for two different orders.

In doing this, there must be evidence that the individual has:

- selected the correct quantity and quality of products as specified in product order and consignment documentation
- securely stacked and wrapped orders to prevent damage
- consolidated and labelled products ready for despatch
- followed workplace procedures to complete despatch documentation and stock records.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- product orders, consignment documentation and workplace policies and procedures relating to processing orders and preparing for despatch
- functions and capabilities of order and despatch software systems
- storage layout, categories, labelling and identification systems of products in a forest product processing setting
- key features of the product range of the workplace
- order picking methods, sequencing and equipment
- transport conditions for different types of products
- packaging requirements to avoid damage
- environmental protection practices for packaging products for despatch
- avoiding waste when wrapping and packaging
- disposing of and recycling wrapping and packaging materials
- processing orders and despatching products, including:

- completion of required documentation and labelling
- communication reporting lines
- recording and reporting order and despatch problems
- workplace safety requirements related to processing orders and preparing for despatch:
 - assistive equipment to shift heavy items
 - hazardous manual tasks
 - hazard identification and controls
 - personal protective equipment (PPE).

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber yard, a timber manufacturing or processing facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - products to prepare two different orders for despatch
 - order picking equipment and assistive equipment to shift heavy items
 - PPE
 - load and product labels
- specifications:
 - access to work orders or consignment documentation for timber product orders
 - access to workplace policies and procedures including safety and environmental requirements applicable to processing and recording orders
- relationships:
 - personnel to confirm product orders and consignment details and provide despatch requirements.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT2262 Cut material to shape using a saw

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to prepare and cut material to shape using sawing equipment to produce shaped timber products and to perform basic operator maintenance of sawing equipment.

The unit applies to production workers, sawmill workers, manufacturing assistants and saw operators who undertake specified activities under the instruction of more experienced workers.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for shaping	1.1 Determine job requirements from work order or instruction and, where required, seek clarification from appropriate person 1.2 Confirm safety and environmental requirements for the task according to workplace procedures 1.3 Select, fit and use required personal protective equipment (PPE)

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.4 Identify type and calculate quantity of materials to be shaped, and obtain from storage location</p> <p>1.5 Select equipment and check for operational effectiveness according to manufacturer specifications</p> <p>1.6 Identify profile to be cut and select cutting blades</p>
2. Set up shaping equipment	<p>2.1 Follow lock-out procedures, select and attach machine guides to machinery</p> <p>2.2 Check saw blade for sharpness and alignment</p> <p>2.3 Use equipment according to workplace safety and environmental procedures and manufacturer instructions</p> <p>2.4 Set cut in line with required shape and to minimise waste</p> <p>2.5 Stack materials in close proximity to maximise ease of machine feeding</p> <p>2.6 Test equipment set-up for correct alignment through trial run on timber, and adjust as required</p>
3. Cut material to shape	<p>3.1 Reject material with defects and dispose of according to workplace and environmental requirements</p> <p>3.2 Feed material into machine at feed rate prescribed in manufacturer instructions</p> <p>3.3 Follow, maintain and adjust cutting sequence to produce required quantity and maximise feed rate</p> <p>3.4 Check jig or shape line regularly and adjust to maintain desired cut</p> <p>3.5 Stack material safely in designated location according to workplace requirements</p> <p>3.6 Identify routine processing and equipment faults and resolve or report to appropriate person</p> <p>3.7 Complete production and quality records according to workplace procedures</p>
4. Complete operator maintenance	<p>4.1 Follow safety procedures to lock out equipment according to workplace procedures</p> <p>4.2 Check saw blades for bluntness or damage</p> <p>4.3 Remove and replace saw blades according to manufacturer recommendations and send used blades for re-sharpening or disposal</p> <p>4.4 Complete basic non-specialist maintenance for equipment</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>according to workplace procedures</p> <p>4.5 Keep machine area clear of dust, offcuts and debris</p> <p>4.6 Clean work area and reuse or recycle waste and dispose of debris according to workplace and environmental requirements</p> <p>4.7 Record and report equipment faults and maintenance requirements to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret relevant information from workplace and manufacturer documentation to safely operate and maintain equipment
Oral communication	<ul style="list-style-type: none"> Ask questions and actively listen to clarify work orders and job tasks Use industry terminology to clearly specify processing and equipment faults
Numeracy	<ul style="list-style-type: none"> Use basic mathematical formulas to calculate material quantities

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT2262 Cut material to shape using a saw	FWPCOT2232 Cut material to shape using a saw	<p>Rewording of Application and Performance Criteria</p> <p>Changes to Foundation Skills</p> <p>Addition of frequency, volume and saw use in Performance Evidence</p>	Equivalent

Code and title current version	Code and title previous version	Comments	Equivalence status
		Addition of Knowledge Evidence to align to Performance Criteria	

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT2262 Cut material to shape using a saw

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has, for at least two different work orders, cut material to shape and completed basic non-specialist maintenance, using one or more of the following saws:

- band saw
- jig saw
- computer numerical control (CNC) saw.

Material to be cut must include two or more of the following:

- native timber species
- imported timber species
- dressed timber
- in-the-rough timber
- stress and non-stress graded timber
- preservative treated timber
- medium density fibreboard
- laminated veneer
- chipboard
- fibreboard and other manufactured board products.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- types, purpose, features, operation and basic non-specialist repair and maintenance of tools and equipment used for cutting material to shape, including:
 - measuring equipment

- band saws
- jig saws
- CNC saws
- machine guides
- methods for assessing saw blade condition
- shapes, feed rates and finish used for timber products
- environmental requirements for forest products processing settings:
 - cleaning plant, tools and equipment
 - disposing of, recycling and reusing timber
- storage layout and categories for:
 - raw materials
 - stacking finished materials
- typical timber defects and effect on producing a quality finished shaped timber product:
 - warp
 - wane
 - cupping
 - shakes
 - insect defects
 - knots
 - resin pockets
- workplace policies and procedures specific to cutting material to shape
- workplace safety requirements relevant to cutting materials using a saw:
 - equipment lock-out
 - use and maintenance of personal protective equipment (PPE), equipment and machinery
 - hazard identification and control measures
 - job safety and environmental analysis (JSEA)
- recording and reporting production outcomes and equipment faults.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber manufacturing or processing facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - materials to cut to shape according to Performance Evidence
 - band, jig or CNC saw
 - PPE
- specifications:

- access to work orders and workplace procedures for cutting materials according to the Performance Evidence
- access to workplace safety and environmental policies and procedures applicable to cutting materials using a saw
- access to saw manufacturer specifications and operator instructions
- relationships:
 - person to confirm work orders and report equipment faults and equipment maintenance.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT2263 Cross cut materials with a fixed saw

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to position and saw timber pieces and timber packs with a fixed circular saw or fixed chainsaw. The unit includes preparing for work, cross cutting timber materials to industry standard lengths, maximising volume and quality of recovery material, and performing routine operator maintenance.

The unit applies to individuals who cross cut materials with a fixed saw in a timber yard and timber products manufacturing setting.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for work	1.1 Determine job requirements from work order or instruction and, where required, seek clarification from appropriate personnel 1.2 Confirm safety requirements for the job according to workplace health and safety procedures 1.3 Identify, assess and take actions to mitigate risks and hazards

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>associated with using a fixed saw</p> <p>1.4 Identify workplace environmental protection procedures for minimising and disposing of waste material, recycling and reusing materials, and cleaning tools and equipment</p> <p>1.5 Consult with team members and other appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.6 Locate saw and other support equipment needed for the work, and check for correct operation and safety</p> <p>1.7 Select, fit and use personal protective equipment</p> <p>1.8 Conduct pre-start-up checks of saw to determine serviceability according to manufacturer instructions</p>
2. Cross cut material	<p>2.1 Assess material visually to identify defects that may present unsafe work conditions, and review cut</p> <p>2.2 Cut material within workplace tolerances for length and angle relative to centre line</p> <p>2.3 Use cutting techniques to industry standard lengths, maximising volume and quality of recovery material</p> <p>2.4 Operate fixed saw effectively according to manufacturer recommendations</p> <p>2.5 Check and clear work area regularly according to workplace health and safety requirements and site procedures</p> <p>2.6 Dispose of sub-standard material according to workplace procedures and environmental requirements</p> <p>2.7 Identify and report problems with operation of saw according to workplace procedures</p>
3. Perform routine operator maintenance	<p>3.1 Lock out, clean and maintain fixed saw according to manufacturer recommendations and workplace procedures</p> <p>3.2 Identify blunt or damaged saws and replace or sharpen, according to workplace procedures and manufacturer recommendations</p> <p>3.3 Record and report fixed saw operations and maintenance to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret workplace documentation to determine requirements
Writing	<ul style="list-style-type: none"> Use technical and workplace specific vocabulary to accurately and legibly complete workplace records and forms
Oral communication	<ul style="list-style-type: none"> Ask questions and actively listen to clarify contents of work plans Give clear and sequenced information and ask clarifying questions when coordinating tasks with team members and others

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT2263 Cross cut materials with a fixed saw	FWPCOT2218 Cross cut materials with a fixed saw	<p>Application and Knowledge Evidence minor changes</p> <p>Element and Performance Criteria updated and sequenced</p> <p>Foundation Skills, Performance Evidence and Assessment Conditions updated</p>	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT2263 Cross cut materials with a fixed saw

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has:

- assessed and used a fixed saw to cross cut:
 - twenty individual pieces of timber to industry standard lengths, maximising volume and quality of recovery material
 - ten packs of timber
- inspected and carried out routine operator maintenance on one fixed saw on one occasion, including removing, sharpening and/or replacing blade or chain, according to manufacturer requirements.

There must also be evidence that in using the fixed saw the individual has followed a work order or instruction that is consistent with workplace policy and procedures and current workplace health and safety legislation, regulations and related industry standards and codes of practice.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- workplace safety requirements and standards for operating, checking, starting up and shutting down a fixed saw
- environmental protection requirements and safe disposal of waste material
- hazards and risks associated with use of fixed saws
- cutting techniques for a fixed saw, including:
 - cutting positions
 - work order requirements
 - industry standard lengths

- straightness requirements
- cutting patterns
- maximising volume and quality of recovery requirements
- cutting procedures that minimise capping and splitting of material
- placing material on conveyor or carriage
- securing material
- cutting at optimum feed rate to avoid damage to saw blade
- techniques for clearing debris when cross cutting materials, including:
 - using hand tools and a water jet to clear debris from the surface of material
 - clearing the work area of offcuts
 - ensuring saw clearance around material
 - depositing off-cuts and debris in recognised areas
 - clearing surfaces of debris likely to cause saw damage in the cutting area
- equipment processes, technical capability and limitations of fixed saws
- industry standard length dimensions
- established communication channels and protocols to maintain safety
- processes for managing risks and hazards associated with fixed saw operations
- defects in timber that can affect processing and cause risk
- emergency evacuation procedures
- workplace requirements for recording and reporting information.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber yard, timber manufacturing setting or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - a fixed circular saw or fixed chainsaw
 - tools and equipment used to maintain fixed saws
 - spare parts and consumables for fixed saws
 - personal protective equipment required in fixed saw operations
- specifications:
 - access to work order or instruction detailing cutting activities to be carried out by operator
 - access to workplace safety and environmental policies and procedures applicable to the use of fixed saws
 - access to workplace procedures and forms for recording production outcomes and fixed saw maintenance
 - access to site emergency procedure

- access to workplace standard operating procedures or manufacturer manual for fixed saws.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT2264 Follow quality and product care procedures in forest and wood products operations

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0

Application

This unit of competency describes the skills and knowledge required to follow and monitor the quality procedures applying to own work and product output in the forest and wood products industry.

The unit applies to individuals working in a broad range of roles and operations in the forest and wood products industry in which there is a focus on maintaining quality and product care.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation, standards and industry codes of practice that apply to the workplace.

No licencing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for the work task	1.1 Determine job requirements from work order or instruction, and where required check with appropriate personnel

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.2 Confirm workplace quality system requirements and procedures related to work task</p> <p>1.3 Confirm forest or wood product specification requirements with appropriate personnel</p> <p>1.4 Confirm workplace safety and environmental protection procedures relevant to work task</p> <p>1.5 Identify, assess and take actions to mitigate hazards and associated risks related to the work task</p> <p>1.6 Establish and maintain communication with others while preparing to undertake and implementing work task</p> <p>1.7 Inspect and assess forest or wood products visually before processing or completion of handling</p>
2. Follow forest or wood product care procedures during the work task	<p>2.1 Assess visual appearance of the processed forest or wood product and monitor product quality to ensure compliance with product specifications and quality standards and to minimise waste</p> <p>2.2 Identify problems associated with forest or wood product quality as they occur and promptly take remedial action or report problem to appropriate personnel</p> <p>2.3 Complete quality and product care reports according to workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extract key information from workplace documents on forest or wood product features and characteristics
Writing	<ul style="list-style-type: none"> Prepare routine quality reports using required format, language and structure
Oral communication	<ul style="list-style-type: none"> Employ active listening and questioning to confirm work instructions
Numeracy	<ul style="list-style-type: none"> Read routine graphical and statistical data related to forest or wood

Skill	Description
	product quality

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT2264 Follow quality and product care procedures in forest and wood products operations	FWPCOR2207 Maintain quality and product care	Updated unit title Reworded Elements and Performance Criteria Reworded Foundation Skills Minor changes to Performance Evidence and Knowledge Evidence Updated Assessment Conditions	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT2264 Follow quality and product care procedures in forest and wood products operations

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, for one work period/shift, the individual has identified and followed workplace quality requirements while performing personal work tasks related to a forest or wood products operation.

In performing this activity, the individual has:

- confirmed quality requirements for the work task with supervisor
- inspected products processed during the work period/shift visually to ensure they meet product specifications and quality requirements
- identified and corrected quality problems or escalated issues to supervisor
- prepared quality and product care reports.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- workplace quality and product care requirements and procedures in forest or wood products operations:
 - communicating product requirements and work output
 - product care and processing
 - identifying and resolving faults with product
 - minimising waste
 - recording and reporting workplace information
- forest or wood product specifications:
 - customer requirements
 - industry standard
 - enterprise standards

- environmental protection requirements related to forest or wood products operations:
 - identifying environmental risks and associated hazards
 - safely disposing of or recycling/re-using waste material as appropriate
 - minimising carbon emissions
 - minimising impact of the use of machinery and equipment on the environment
- mathematical procedures for estimating and measuring forest or wood product against specifications
- requirements of quality systems that may apply to product care and quality in forest or wood products operations
- assessing visual appearance of forest or wood products according to workplace procedures and nature of the product
- work health and safety policies and procedures relevant to forest or wood products operations:
 - personal protective equipment and clothing
 - safety equipment
 - first aid equipment
 - hazard identification and risk control
 - fatigue management
 - elimination of hazardous materials and substances
 - identifying hazards in the work process and assessing and controlling their risk
 - manual handling techniques.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest or wood products work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - materials and equipment relevant to the work task being performed
- specifications:
 - workplace health, safety and environmental policies and procedures applicable to work task to be carried out
 - workplace quality requirements and procedures.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT2265 Navigate in forest areas

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to navigate in forest areas in situations where difficult environmental conditions and poor visibility are likely to occur.

The unit applies to individuals who may be required to navigate in forest areas as part of forestry operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for navigation	1.1 Determine job requirements from work order or instruction, and where required seek clarification from appropriate personnel 1.2 Review workplace health and safety procedures , including use of

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>personal protective equipment, applying to navigation in forest areas</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with navigating in forest areas</p> <p>1.4 Identify emergency and evacuation procedures to follow in the event of an emergency</p> <p>1.5 Consult with appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.6 Select suitable maps, charts and imagery, global positioning system (GPS) equipment and navigation aids and check for accuracy, currency and operational effectiveness</p> <p>1.7 Detect and correct faults or errors in maps and equipment</p>
2. Plan the route	<p>2.1 Plan route according to workplace procedures</p> <p>2.2 Examine maps to identify relevant symbols, geographical information and navigation data</p> <p>2.3 Plan optimum route according to time and safety considerations</p> <p>2.4 Plan emergency exit routes and other contingency measures to mitigate expected and unforeseen risks</p> <p>2.5 Identify limitations in planning and seek assistance from appropriate personnel</p> <p>2.6 Confirm planned route and schedule and provide copy to appropriate personnel</p>
3. Navigate the route	<p>3.1 Navigate to and from destination according to planned route and schedule</p> <p>3.2 Use GPS and other navigation equipment according to manufacturer instructions throughout journey</p> <p>3.3 Orientate maps to surroundings and utilise compass and environmental navigation aids to assist</p> <p>3.4 Navigate alternative routes to bypass obstacles and improve efficiency of route</p> <p>3.5 Navigate routes and courses to minimise impact on the environment</p> <p>3.6 Record and report navigation activities according to workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Read text on maps, charts and GPS equipment
Writing	<ul style="list-style-type: none"> Use routine text and technical terms in written reports
Oral communication	<ul style="list-style-type: none"> Ask questions to clarify navigational requirements
Numeracy	<ul style="list-style-type: none"> Estimate and calculate travel time and distances

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT2265 Navigate in forest areas	FWPCOT2233 Navigate in forest areas	Updated Application Minor updates to Performance Criteria Minor wording changes to Performance Evidence and Knowledge Evidence Updated Foundation Skills and Assessment Conditions	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT2265 Navigate in forest areas

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has planned and conducted one navigation activity in a forest area, and during this activity:

- followed workplace policies and procedures for navigating in forest areas
- planned route according to workplace procedures
- navigated to and from destinations according to the planned route and schedule using navigation aids that must be selected from:
 - compass
 - global positioning system (GPS)
 - cadastral maps (maps that show the boundaries and ownership of land parcels)
 - topographic maps
 - photographs and other digital imagery
- responded to environmental circumstances enroute and adapted by navigating alternative routes
- followed workplace health and safety procedures, including use of personal protective equipment (PPE).

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- environmental protection practices for minimising damage to the local environment when navigating in forest areas
- purpose, features and operation of navigation equipment and aids, including:
 - compass
 - GPS
 - cadastral maps (maps that show the boundaries and ownership of land parcels)

- topographic maps
- photographs and other digital imagery
- advantages and disadvantages of different map and chart types, and sources of error
- representation of topographic features and symbols on maps and charts
- common scales used on maps and plans
- techniques for calculating and estimating distances and times within a particular activity context
- features and uses of environmental navigation aids:
 - survey markers
 - track markers
 - signs
 - arrows
 - natural landmarks
- PPE and clothing
- modes and methods of communication with others
- workplace health and safety procedures for navigation activities.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest or wood products work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - forest area to navigate
 - navigation equipment and resources
 - communication devices appropriate for use in remote or trackless areas
 - PPE
- specifications:
 - workplace health, safety and environmental policies and procedures applicable to navigation task
 - workplace procedures related to navigation in forest areas.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT2266 Operate brush cutter

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to plan for and safely cut vegetation using an industrial standard blade type brush cutter.

The unit applies to individuals who are involved in brush cutting operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for brush cutting	1.1 Determine job requirements from work order or instruction, and where required seek clarification from appropriate personnel 1.2 Confirm safety and environmental requirements for the task according to workplace procedures 1.3 Identify, assess and take actions to mitigate risks and hazards

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>associated with brush cutting operations</p> <p>1.4 Identify emergency and evacuation procedures to follow in the event of an incident or accident</p> <p>1.5 Consult with appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.6 Select tools, equipment, machinery and materials for brush cutting operations and check for serviceability according to workplace procedures</p> <p>1.7 Select, use and store personal protective equipment and clothing appropriate to work task</p> <p>1.8 Select appropriate cutting methods for identified types of vegetation and to optimise time and safety</p>
2. Operate brush cutter	<p>2.1 Use equipment according to workplace safety procedures, manufacturer instructions and environmental protection practices</p> <p>2.2 Use hand signals with other operators to maintain effective and safe operations</p> <p>2.3 Adjust brush cutter safety harness and handles to correct ergonomic position</p> <p>2.4 Monitor brush cutter for operational effectiveness, and refuel as required</p> <p>2.5 Operate brush cutter appropriate to site conditions and at a safe distance from other people present</p> <p>2.6 Dispose of cut vegetation according to workplace and environmental protection practices</p>
3. Complete operator maintenance	<p>3.1 Follow workplace safety procedures to lock out equipment</p> <p>3.2 Check brush cutter blades for bluntness or damage</p> <p>3.3 Remove and replace brush cutter blades and other operator-replaceable components in line with manufacturer recommendations</p> <p>3.4 Dispose of used blades according to workplace and environmental protection practices</p> <p>3.5 Record and report equipment faults and maintenance requirements to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extract information from industry guides and standard references on brush cutting techniques
Writing	<ul style="list-style-type: none"> Complete workplace forms
Oral communication	<ul style="list-style-type: none"> Ask open and closed questions and use active listening techniques to clarify contents of work orders Provide oral reports on brush cutting operations
Numeracy	<ul style="list-style-type: none"> Estimate area and distance related to brush cutting operations Mix fuel according to manufacturer recommended ratios Measure fuel volumes

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT2266 Operate brush cutter	FWPFGM2207 Undertake brushcutting operations	<p>Updated title</p> <p>Updated Performance Criteria</p> <p>Aligned Performance Criteria with Performance Evidence and Knowledge Evidence</p> <p>Minor wording changes to Performance Evidence and Knowledge Evidence</p> <p>Updated Foundation Skills and Assessment Conditions</p>	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT2266 Operate brush cutter

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has prepared for one brush cutting job and operated a brush cutter according to workplace safety procedures, manufacturer instructions and environmental protection practices to complete this job.

In performing this activity, the individual has:

- followed safety procedures, including the use of personal protective equipment (PPE)
- completed brush cutting job according to work order prescribing areas and types of vegetation to be cut
- disposed of cut vegetation according to workplace and environmental protection requirements
- completed operator maintenance tasks according to manufacturer requirements
- completed workplace records for equipment faults and maintenance requirements.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- typical workplace hazards associated with operating brush cutters, and methods of minimising risks:
 - ground growth
 - ground slope
 - ground hazards
 - noise
 - weather
 - kickback
 - flying objects
- safe working distances from other people present

- safe handling, use, storing and transporting of fuels
- fuel types, measurements and mixing ratios
- purpose, features and safe operation of brush cutters
- the correct ergonomic position in which to conduct brush cutter operations, including using a safety harness and handle adjustments
- methods for assessing blade condition and removing and replacing blades
- operator maintenance tasks, including oil, fuel, safety checks, cleaning, lubricating, adjustments
- different types of vegetation and the appropriate brush cutting methods
- environmental protection practices for disposing of cut vegetation:
 - recycling vegetation where appropriate
 - sending vegetation to landfill only where it cannot be recycled
 - redirecting vegetation for energy recovery
- workplace procedures specific to brush cutting operations
- workplace health and safety procedures, with particular emphasis on equipment lock-out and use of PPE
- communication reporting lines
- recording and reporting equipment faults and maintenance requirements.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - vegetated area for brush cutting operations
 - brush cutters and other tools, machinery, equipment and materials used in brush cutting operations
 - PPE suitable for brush cutting operations
- specifications:
 - access to work order or instruction, with specific instructions for brush cutting operations
 - access to workplace health, safety and environmental policies and procedures applicable to brush cutting operations
 - workplace procedures for brush cutting operations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT2267 Operate mobile hydraulic log splitter

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to operate a mobile hydraulic splitting unit to split timber for use in rural settings or to produce firewood.

The unit applies to individuals who operate mobile hydraulic splitting equipment as part of forestry operations.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for splitting operations	1.1 Determine job requirements from work order or instruction, and where required seek clarification from appropriate personnel 1.2 Confirm production targets and assess wood flow requirements to ensure efficient machine operation and overall productivity 1.3 Confirm safety and environmental requirements for the task according to workplace procedures 1.4 Identify, assess and take actions to mitigate risks and hazards

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>associated with machine operations</p> <p>1.5 Identify emergency plan procedures to follow in the event of an incident or accident</p> <p>1.6 Identify type and quantity of timber blocks to be split and quality requirements for split material</p> <p>1.7 Consult with appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.8 Select, use and store personal protective equipment and clothing appropriate to work task</p> <p>1.9 Conduct pre-operational machinery and fuel checks, and position, secure and adjust hydraulic splitter according to manufacturer recommendations and workplace procedures</p>
2. Split timber and record data	<p>2.1 Select and test vertical or horizontal splitting operations</p> <p>2.2 Ensure splitter is kept clear of timber shards and debris</p> <p>2.3 Position and secure timber blocks pre-cut to fit within the hydraulic splitter</p> <p>2.4 Split timber into sizes that suit standard fireplaces, in line with safe work procedure</p> <p>2.5 Stack or load split timber for transportation</p> <p>2.6 Set aside split timber that does not meet size requirements for recycling or re-use according to workplace procedures</p> <p>2.7 Record and report production outcomes and equipment faults to appropriate personnel, according to workplace procedures</p>
3. Carry out machine operator maintenance	<p>3.1 Follow equipment lock-out procedures according to workplace health and safety requirements and workplace procedures</p> <p>3.2 Conduct visual inspection and fault finding procedures according to manufacturer recommendations and workplace procedures</p> <p>3.3 Conduct routine operational servicing to maintain optimum operational performance of equipment</p> <p>3.4 Diagnose faults, malfunctions or problems with equipment and report according to workplace procedures</p> <p>3.5 Clean and store equipment, attachments and other ancillary equipment</p> <p>3.6 Record and report splitter operation results according to workplace</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> • Read production and safety plans relevant to mobile splitting operations • Read standard operating procedures for mobile splitting machines
Writing	<ul style="list-style-type: none"> • Complete paper-based or electronic forms to record production and machine maintenance information
Oral communication	<ul style="list-style-type: none"> • Ask questions to clarify contents of work instructions
Numeracy	<ul style="list-style-type: none"> • Estimate and count number of blocks to be split

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT2267 Operate mobile hydraulic log splitter	FWPHAR2205 Conduct mobile splitting operations	Updated title Updated Elements and Performance Criteria Reworded Performance Evidence Updated Knowledge Evidence Updated Foundation Skills and Assessment Conditions	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT2267 Operate mobile hydraulic log splitter

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has set up, adjusted and used a mobile hydraulic splitter to split timber for one job/work order.

In performing this activity, the individual has:

- followed safety procedures, including the use of personal protective equipment (PPE) and emergency response to forest fire
- determined type and quantity of timber blocks to be split
- confirmed quality specifications for the split material
- selected and used a suitable splitting method for the task
- stacked or loaded for transportation split timber and timber assigned for re-use and recycling
- disposed of timber residues following environmental protection requirements
- recorded and reported timber splitting production outcomes and equipment faults according to workplace procedures
- performed machine operator maintenance on a hydraulic splitter according to workplace procedures.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- procedures for emergency response to forest fire
- safe work procedures for conducting mobile splitting operations
- environmental protection requirements, including re-use, recycling or safe disposal of waste material
- procedures for hazard identification and risk assessment and control in the work area, involving hazards and risks in mobile splitting operations

- procedures for recording and reporting timber splitting production outcomes and equipment faults
- fuels for mobile hydraulic splitters
- procedures for safe handling, use, transport and storage of fuel
- operation and safety features of mobile hydraulic splitters
- operator maintenance on mobile hydraulic splitter, and lock-out procedures
- use of PPE and clothing relevant to mobile splitting operations.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest or wood products work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - commercial quantity of pre-cut timber blocks
 - mobile hydraulic splitter and associated tools, equipment and materials
 - PPE required for operating mobile hydraulic splitter
- specifications:
 - work order or instruction detailing timber splitting task to be carried out
 - workplace health, safety and environmental policies and procedures applicable to the use of a mobile hydraulic splitter
 - workplace procedures related to the use of a mobile hydraulic splitter
 - manufacturer manual for mobile hydraulic splitter.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT2268 Cut timber or engineered wood product to length or dimensions

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to prepare and cut timber or engineered wood product to length or dimensions with a power-driven saw, which may include a mechanical feed. The unit includes equipment maintenance on completion of operation.

The unit applies to individuals who cut timber or engineered wood products to length or dimensions with a power-driven saw in a wood products work environment.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for cutting timber or engineered	1.1 Determine job requirements and cutting list from work order or

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
wood product	<p>instruction and, where required, confirm with appropriate person</p> <p>1.2 Confirm health and safety requirements for cutting task according to workplace procedures</p> <p>1.3 Identify type and quantity of product to be cut and obtain product from storage</p> <p>1.4 Plan product cutting patterns according to cutting list</p> <p>1.5 Select, fit and use personal protective equipment</p> <p>1.6 Select appropriate cutting equipment and check for operational effectiveness according to manufacturer instructions</p> <p>1.7 Set up saw sequences according to work order and cutting list</p>
2. Cut timber or engineered wood product with power-driven saw	<p>2.1 Use equipment according to manufacturer instructions and workplace health and safety and environmental protection practices and/or procedures</p> <p>2.2 Mark up product and set stops for cutting</p> <p>2.3 Follow cutting sequence to produce required quantity</p> <p>2.4 Check cuts for length and/or angle within set tolerance</p> <p>2.5 Dispose of incorrect cuts, off-cuts and sub-standard products according to workplace environmental protection practices and/or procedures</p> <p>2.6 Monitor mechanical feed systems, if fitted</p> <p>2.7 Stack product in designated location safely according to workplace procedure</p> <p>2.8 Identify routine processing problems, and resolve or report to appropriate personnel</p>
3. Complete operator maintenance	<p>3.1 Lock out equipment according to workplace health and safety procedures</p> <p>3.2 Check saw blades for bluntness or damage</p> <p>3.3 Remove and replace saw blades according to manufacturer recommendations</p> <p>3.4 Dispose of used blades according to workplace environmental protection practices and/or procedures</p> <p>3.5 Complete basic non-specialist maintenance of equipment</p> <p>3.6 Keep machine clear of dust and debris according to workplace</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	health and safety procedures 3.7 Record and report equipment faults and maintenance requirements to appropriate personnel

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret routine workplace documents relevant to cutting timber or engineered wood products to required lengths or dimensions using a power-driven saw
Oral communication	<ul style="list-style-type: none"> Ask questions and actively listen to clarify work orders and job tasks and report workplace issues
Numeracy	<ul style="list-style-type: none"> Measure timber or engineered wood products in cutting operations

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT2268 Cut timber or engineered wood product to length or dimensions	FWPCOT2234 Dock material to length	Redesigned unit that includes content from FWPCOT2234 Dock material to length, FWPSAW2204 Dock boards with mechanical feed and FWPWPP2213 Cut panels	Not equivalent
FWPCOT2268 Cut timber or engineered wood product to length or dimensions	FWPSAW2204 Dock boards with mechanical feed	Redesigned unit that includes content from FWPCOT2234 Dock material to length,	Not equivalent

		FWPSAW2204 Dock boards with mechanical feed and FWPWPP2213 Cut panels	
FWPCOT2268 Cut timber or engineered wood product to length or dimensions	FWPWPP2213 Cut panels	Redesigned unit that includes content from FWPCOT2234 Dock material to length, FWPSAW2204 Dock boards with mechanical feed and FWPWPP2213 Cut panels	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT2268 Cut timber or engineered wood product to length or dimensions

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has cut to length or dimensions three standard packs from one of the following product types for three different work orders:

- timber varying in lengths and sectional sizes
- engineered wood product.

In performing this task, the individual has used one of the following items of equipment:

- manually controlled docking and trimming saw
- bench saw
- radial arm saw
- saw with adjustable angles
- saw with mechanical feed
- saw with one blade
- table saw
- saw with automatic feed
- other workplace equipment for cutting timber or engineered wood products to length or dimensions.

Also, in performing this task, the individual has:

- followed workplace procedures for cutting operation
- selected, fitted and used personal protective equipment (PPE)
- cut products to length or dimensions according to prescribed workplace tolerance
- stacked cut product in designated storage location according to common length and width
- completed operator maintenance on the saw used.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- workplace policies and procedures relevant to cutting timber or engineered wood product using a power-driven saw
- processes, procedures and techniques for cutting timber or engineered wood product to length or dimensions, including:
 - optimal cutting practices to minimise waste
 - use and maintenance of docking equipment
 - stacking finished products
 - assessing saw blade condition
 - cleaning plant, tools and equipment
 - recording and reporting equipment faults and maintenance requirements
- cutting patterns and sequences for single angles requiring one cutting pass or single vertical cuts
- industry standard lengths, cross-sections, appearance grades, characteristics, properties, defects and limitations of timber or engineered wood product to be cut
- workplace health and safety requirements related to cutting timber or engineered wood product to length or dimensions, including:
 - hierarchy of risk controls
 - PPE
 - electrical hazards and use of residual current devices (RCD)
 - equipment lock-out
 - exposure to dust
 - exposure to excessive noise
 - hazardous manual tasks
- functional and operational features of tools and equipment used in workplace for cutting timber or engineered wood product to length or dimensions
- methods for stacking finished timber or engineered wood product products safely
- methods for assessing saw blade condition
- environmental requirements and practices for waste disposal.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing, manufacturing facility or timber yard, or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - equipment to cut timber or engineered wood products to length or dimensions

-
- PPE suitable to the work activity
 - tools and materials required for saw maintenance
 - different types of timber or engineered wood products varying in lengths and sectional size
 - specifications:
 - work orders with specific instructions for cutting timber or engineered wood product
 - workplace health and safety and environmental protection policies and/or procedures applicable to timber or engineered wood product cutting operations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT2269 Operate and maintain a table saw

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to use a table saw to cut timber or engineered wood products. This activity includes assessing sawing conditions and adjusting feed rate and sawing equipment to maximise product quality.

The unit applies to individuals who use a table saw to saw timber or engineered wood products in a wood products facility.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for operation	1.1 Determine job requirements from work order and cutting pattern and, where required, seek clarification from appropriate personnel 1.2 Confirm workplace health and safety procedures, including use of personal protective equipment, equipment lock-out, and safe manual

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>handling techniques</p> <p>1.3 Identify and assess hazards and take actions to mitigate risks related to operating a table saw</p> <p>1.4 Identify workplace environmental protection practices and/or procedures for minimising and disposing of waste material, cleaning tools and equipment, and maximising energy efficiency</p> <p>1.5 Check input product to ensure supply and quality meets specification</p>
2. Operate table saw	<p>2.1 Follow machine lock-out procedures and adjust saws, carriage, speeds and feeds to suit type of material, dimensions and cutting sequence</p> <p>2.2 Use table saw according to manufacturer instructions and workplace health and safety and environmental protection practices and/or procedures</p> <p>2.3 Select and follow cutting sequence to produce required quantity</p> <p>2.4 Maintain feed rate appropriate to condition and size of product</p> <p>2.5 Clear work area according to workplace health and safety procedures</p> <p>2.6 Dispose of incorrect cuts, off-cuts and defective product according to workplace environmental protection practices and/or procedures</p> <p>2.7 Stack material safely in designated location according to workplace procedure</p>
3. Assess sawing conditions and maintain optimum sawing processes	<p>3.1 Assess sawing conditions regularly to determine optimal feed rate and finish</p> <p>3.2 Adjust sawing feed rate to achieve finished dimensions according to work order</p> <p>3.3 Evaluate finished product regularly and adjust sawing process to maximise product quality</p> <p>3.4 Regularly measure dimensions of finished product against standard sizes and tolerances, and adjust sawing process</p> <p>3.5 Identify routine processing and equipment faults, and resolve or report to appropriate personnel</p> <p>3.6 Complete production and quality records, and report according to workplace procedures</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
4. Complete operator maintenance	4.1 Lock out machine and equipment according to workplace health and safety procedures 4.2 Check saw blades for bluntness or damage 4.3 Remove and replace blades according to manufacturer recommendations 4.4 Dispose of used blades according to workplace environmental protection practices and/or procedures 4.5 Complete basic non-specialist maintenance of equipment 4.6 Record and report equipment faults and maintenance requirements to appropriate personnel

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret routine workplace documents, including workplace health and safety guidelines, workplace procedures, cutting lists and work orders
Oral communication	<ul style="list-style-type: none"> Ask questions and actively listen to clarify work orders and job tasks and report workplace issues
Numeracy	<ul style="list-style-type: none"> Calculate feed rate to optimise quality and quantity of production output Accurately measure dimensions of sawn timber against standard sizes and tolerances

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT2269	FWPCOT2245	Reworded Application	Not equivalent

Operate and maintain a table saw	Operate and maintain a table saw	statement to broaden unit scope Minor updates to Performance Criteria Revised Foundation Skills and Performance Evidence Minor edits to Knowledge Evidence and Assessment Conditions	
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Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT2269 Operate and maintain a table saw

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has operated a table saw to perform one of the following tasks:

- cut two sets of distinct engineered wood products to length and/or width within specified tolerances
- re-saw two batches of timber or timber off-cuts to length and width within specified tolerances.

In performing this task, the individual has:

- followed work order and relevant workplace health and safety and environmental protection practices and/or procedures
- selected, fitted and used personal protective equipment (PPE)
- operated table saw according to workplace procedures
- assessed sawing conditions and maintained optimum sawing processes
- completed production and quality records for the job
- stacked cut materials in the designated storage location
- completed basic non-specialist maintenance on the saw used.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- timber or engineered wood products to be cut using a table saw, including:
 - range of industry standard lengths, cross-sections and tolerances and applicable terminology
 - typical cutting patterns

- defects and how they impact on the quality of finished products
- types, purpose, features, operation and basic non-specialist repair and maintenance of table saws
- methods for assessing saw blade condition and completing basic non-specialist repair and maintenance for saws
- problems that may occur during sawing operations, including:
 - equipment faults and malfunctions
 - quality of product and machine settings
 - transfer and flow of material
 - routine sawing problems
 - feed rate and product finish
 - infeed and outfeed systems
 - damage to sawn material
 - damage to saw blade
 - material positioning
- types of hazards and associated risks and mitigation measures with operating and maintaining table saws
- workplace procedures specific to operating and maintaining table saws, including:
 - workplace health and safety, with particular emphasis on equipment lock-out, use of PPE and safe manual handling techniques
 - use and maintenance of equipment
 - communication reporting lines
 - recording and reporting of production outcomes and equipment faults
- environmental protection requirements and practices for forest products factory settings, including:
 - cleaning plant, tools and equipment
 - disposing of, recycling and reusing waste materials.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing plant, a timber product manufacturing plant or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - table saw
 - tools and equipment for operator maintenance of table saw
 - PPE suitable for operating and maintaining a table saw
 - range of timber or engineered wood products

- specifications:
 - workplace health and safety and environmental protection policies and/or procedures applicable to using a table saw for cutting timber or engineered wood products
 - workplace procedures for operating and maintaining table saws
 - work order specifying final product dimensions and requirements.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT2270 Cut wood material with pole saw for unblocking machinery components

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to cut wood material at a distance reachable with manual blade and power-driven pole-mounted chain saws to unblock components of machinery.

The unit applies to individuals who operate a pole saw in a sawmill or timber processing environment.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for cutting wood material to unblock machinery	1.1 Determine job requirements from work order or instructions and, where required, clarify with appropriate personnel

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
components	1.2 Confirm workplace health and safety requirements for task, including use of personal protective equipment 1.3 Identify and assess hazards and take actions to mitigate risks related to task 1.4 Select pole saw and complete pre-operational checks according to workplace requirements and cutting conditions 1.5 Apply and follow machinery lock-out procedures
2. Assess wood material to be cut	2.1 Establish and maintain communication with others in work area to ensure safety 2.2 Assess location and stability of wood material for conditions likely to affect safety of cutting operation 2.3 Identify wood material unable to be cut safely, and refer to appropriate personnel
3. Use pole saw to cut wood material and unblock machinery components	3.1 Operate pole saw to safely cut and remove wood material 3.2 Adjust cutting technique in response to machinery requirements and allowances 3.3 Ensure blockage is removed from machinery components whilst complying with safe work practices 3.4 Clear waste and debris from site according to workplace environmental protection practices and/or procedures
4. Conduct operator maintenance for pole saw	4.1 Clear pole saw of dust, shavings and debris 4.2 Check chain condition, particularly any sign of wear or damage 4.3 Remove, sharpen, tension, adjust, replace and lubricate chain and other components according to manufacturer recommendations 4.4 Recycle, reuse or dispose of chain and other components according to workplace environmental protection practices and/or procedures 4.5 Record and report cutting operations, pole saw faults and maintenance activities to appropriate personnel

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret routine workplace documents related to using pole saw for unblocking machinery components
Oral communication	<ul style="list-style-type: none"> Ask open and closed questions and actively listen to clarify contents of work orders
Numeracy	<ul style="list-style-type: none"> Determine diameters and lengths of wood material by visual estimation

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT2270 Cut wood material with pole saw for unblocking machinery components	FWPCOT2240 Cut material with a pole saw	New unit title Revised Elements, Performance Criteria, Foundation Skills, Performance Evidence and Assessment Conditions	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT2270 Cut wood material with pole saw for unblocking machinery components

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on one occasion, the individual has used a manual blade pole saw or a power-driven pole-mounted chain saw to cut wood material at a reachable distance to unblock mechanical components of machinery.

In performing this task, the individual has:

- followed workplace procedures and safe work practices
- conducted pre-operational checks and adjustments of pole saw
- locked out machinery and assessed materials to be cut for safe working conditions
- adjusted operating techniques in response to wood material and machinery conditions
- carried out routine maintenance on pole saw, including cleaning, lubrication, chain tensioning and replacement
- recorded and reported cutting activities and maintenance.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- workplace procedures related to using pole saws for unblocking machinery components, including:
 - health and safety, with emphasis on use of personal protective equipment (PPE) and machine lock-out
 - pole saw operation
 - communication channels and protocols
 - recording and reporting workplace information
 - environmental protection
- hazards and associated risks with using pole saw to unblock machinery components
- types of pole saws used to unblock machinery components, including:

- manual blade pole saws
- power-driven pole-mounted chain saws
- pole saw components, including blades, conveyors, chains, roller drums, pulleys
- methods for assessing condition of pole saw chain
- common fault-finding techniques and resolution strategies relevant to use of pole saws.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing plant, a timber product manufacturing plant or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - pole saw used for unblocking machinery components
 - machinery to demonstrate wood material cutting and unblocking with a pole saw
 - PPE required for safely operating a pole saw
- specifications:
 - workplace health and safety and environmental protection policies and/or procedures applicable to use of pole saw for unblocking machinery components
 - workplace procedures for use of pole saw.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT2271 Pack timber or wood products for despatch

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to plan and pack timber or wood products for routine and special orders and to modify packing in response to order changes in readiness for despatch to customers.

The unit applies to individuals who pack timber or wood products in a timber or wood products factory setting.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to pack timber or wood products orders	1.1 Review work order and clarify with appropriate personnel 1.2 Select and use personal protective and safety equipment appropriate to work requirements

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.3 Assess strength, flexibility and liability to damage of timber or wood products to be packed</p> <p>1.4 Ensure sizes and weights of planned pack are consistent with handling systems at despatch and delivery site</p> <p>1.5 Communicate information with relevant personnel, as required, according to workplace procedures</p>
2. Pack timber or wood products orders	<p>2.1 Select packing material to suit specific order requirements</p> <p>2.2 Apply packing methods according to relevant regulations and workplace procedures</p> <p>2.3 Use stacking, bracing and strapping methods to provide strength and minimise damage during transport</p> <p>2.4 Apply labelling methods according to workplace procedures</p> <p>2.5 Minimise and deal with bracing and strapping waste material according to workplace procedures, manufacturer recommendations and environmental protection requirements</p> <p>2.6 Report and rectify pack handling problems or product damage resulting from packing process</p>
3. Modify packing of timber or wood products in response to order changes	<p>3.1 Determine changes to type or quantity of timber or wood products to be packed</p> <p>3.2 Review or alter transport packing methods</p> <p>3.3 Report changes that may result in potential major problems with the customer</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret routine workplace documents, including procedures, orders, consignment documents, despatch schedules, product labels and stock records

Skill	Description
Writing	<ul style="list-style-type: none"> • Complete routine records of orders and despatch • Record information on despatch labels • Write routine reports about order and despatch problems
Oral communication	<ul style="list-style-type: none"> • Ask open and closed probing questions and actively listen to clarify contents of orders and consignment documentation • Provide clear instructions to delivery driver
Numeracy	<ul style="list-style-type: none"> • Determine numbers of goods on order documentation, and count items to match • Input accurate numerical data into stock records • Estimate with reasonable accuracy size and weight of packs to be distributed

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT2271 Pack timber or wood products for despatch	FWPCOT2231 Pack products	New unit title Minor edits to Application, Performance Criteria, Foundation Skills, Performance Evidence and Assessment Conditions	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT2271 Pack timber or wood products for despatch

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has planned and packed timber or wood products for:

- one routine order in readiness for despatch to customers
- one special order in readiness for despatch to customers.

In performing each of these tasks, the individual has:

- followed workplace health and safety and environmental protection practices and/or procedures for packing timber or wood products
- packed timber or wood products according to work order
- stacked, braced, strapped and labelled packs of timber or wood products
- used appropriate labelling methods
- modified packing of routine order
- monitored, reported and rectified packing faults and handling problems

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- safe work procedures involved in packing and handling timber or wood products, including the use of personal protective equipment
- workplace environmental protection requirements and practices, including the safe and efficient disposal, recycling or re-use of waste material, including bracing and strapping waste material
- workplace procedures related to timber or wood products packing process, including:
 - identifying and resolving common faults and problems

- recording and reporting workplace information
- end-use of timber or wood products to be packed, and consequences of product damage resulting from packing process
- characteristics of pack shift and movement, its impact on safety and how to control it
- packing sequences and weight distribution and their impact on safety and productivity
- packing methods that apply to different types of timber or wood products, including stacking, bracing, and strapping
- tools and equipment used for packing, and procedures for their safe use and maintenance.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing plant, a timber manufacturing plant or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - timber or wood products to be packed
 - materials and equipment used to pack products
 - packing materials
 - labelling materials
 - personal protective equipment required for packing operations
- specifications:
 - work order or instruction detailing task to be carried out
 - workplace health and safety and environmental protection policies and/or procedures applicable to timber or wood products packing operations
 - workplace procedures for timber or wood products packing operations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT2272 Rack timber or round poles

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to identify, sort and rack sawn boards, dressed boards or round poles. It includes verification of timber product or round poles to ensure appropriate quality and separation of material with faults.

The unit applies to individuals responsible for racking and storing timber or round poles in a timber production, log yard or storage facility.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to rack timber or round poles	1.1 Determine job requirements from work order or instruction and, where required, seek clarification from appropriate personnel 1.2 Review workplace health and safety procedures for task, including use of personal protective equipment and safe manual handling

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>techniques</p> <p>1.3 Identify and assess hazards and take actions to mitigate risks related to racking operations</p> <p>1.4 Identify type and quantity of timber or round poles to be racked</p> <p>1.5 Identify characteristics of a correctly assembled rack</p>
2. Identify timber or round poles dimensions	<p>2.1 Estimate visually or measure standard dimensions of timber or round poles to be racked</p> <p>2.2 Identify and interpret stress grade labels, colour identification marks, rack identification numbers and other tags</p>
3. Rack timber or round poles	<p>3.1 Check bearers for consistent thickness and damage, and dispose of substandard ones</p> <p>3.2 Place bearers and spacing sticks squarely, evenly and consistently</p> <p>3.3 Rack timber or round poles of consistent type, species, grade, cross-section, length or diameter according to work order and workplace health and safety procedures</p> <p>3.4 Identify, separate and dispose of faulty timber or round poles according to workplace procedures and environmental protection requirements</p> <p>3.5 Clear work area regularly to maintain a safe and efficient workflow</p> <p>3.6 Record and report processes and equipment faults to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret routine workplace documents related to racking operation
Writing	<ul style="list-style-type: none"> Complete routine workplace records used in racking operations

Skill	Description
Oral communication	<ul style="list-style-type: none"> Ask open and closed questions and actively listen to clarify contents of work orders
Numeracy	<ul style="list-style-type: none"> Complete routine calculations for spacing of bearers

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT2272 Rack timber or round poles	FWPCOT2202 Rack material	<p>New unit title</p> <p>Updated Application statement</p> <p>Revised Elements, Performance Criteria, Foundation Skills, Performance Evidence, Knowledge Evidence, and Assessment Conditions</p>	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT2272 Rack timber or round poles

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has racked, according to a work order, one batch of one type of product selected from:

- round poles
- sawn boards
- dressed boards.

In performing this task, the individual has:

- followed workplace health and safety procedures for racking the product
- prepared, sorted and racked the product
- identified, separated and safely disposed of product with faults
- completed workplace records relevant to the work task.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- purpose of racking timber or round poles
- characteristics of a correctly assembled rack, which includes that timber or round poles racked have to be:
 - of similar grade, moisture content and drying characteristics
 - restrained and supported evenly along product full length and at both ends
 - spaced at regular intervals from product in adjacent rows
 - assembled with very even sides and ends so that the airflow into the rack from any direction is as regular as practical

- arranged so that the rack is rugged and its dimensions are optimised for integration with other fixed equipment
- techniques for racking timber or round poles
- industry standard diameters, lengths, cross-sections, tolerances, stress grades of timber or round poles product
- visual estimation techniques for length, diameter and cross-sections of timber or round poles product
- measurement techniques for length, diameter and cross-sections of timber or round poles product
- purpose and meaning of stress grade labels, colour identification marks, rack identification numbers and other tags used in timber or round poles production
- safe manual handling techniques related to racking timber or round poles
- purpose, features and operation of equipment used to rack timber or round poles
- requirements for quality and dimensions of bearers
- environmental protection requirements and practices for disposing of, recycling and reusing timber and other waste
- hazards and risks associated with timber or round poles racking operations
- workplace procedures related to racking timber or round poles, including:
 - health and safety, with particular emphasis on use of personal protective equipment (PPE) and safe manual handling
 - communication reporting lines
 - processes for reporting hazards and equipment faults.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing plant, timber manufacturing plant, log yard facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - tools and equipment used to rack timber or round poles
 - PPE suitable for racking timber or round poles
 - quantities of timber or round poles to be racked
- specifications:
 - work order or instruction detailing racking activities to be carried out
 - workplace health and safety and environmental protection policies and/or procedures applicable to racking operations
 - workplace procedures for racking timber or round poles.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT2273 Trim and cut felled trees

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit describes the skills and knowledge required to trim and cut felled trees with a chainsaw, and complete operator maintenance.

For the purpose of this unit of competency, a felled tree is any tree or part thereof, including, but not limited to, a tree trunk, branch or limb that has fallen or has been felled and is laying on the ground in a bushland, plantation, forested or other setting, including parkland, roadways and urban areas.

The unit applies to individuals who trim and cut felled trees as part of arboriculture, forestry, agriculture, conservation and land management, local government, emergency services and other government agency operations. With the exception of minor forest produce, this unit does not apply to commercial harvesting operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation, standards and industry codes of practice that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
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<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for trimming and cutting felled trees	<p>1.1 Determine job requirements from work order or instruction and, where required, seek clarification from appropriate personnel</p> <p>1.2 Confirm workplace health and safety and environmental protection practices and/or procedures for task</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with trimming and cutting felled trees</p> <p>1.4 Plan trimming and cutting activities according to work order or instruction and environmental conditions</p> <p>1.5 Consult and maintain communication with team members and other appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.6 Obtain tools and equipment needed for the work, and check for correct operation and safety</p> <p>1.7 Select, fit and use personal protective equipment</p>
2. Assess felled trees visually	<p>2.1 Inspect site for conditions likely to affect safe implementation of trimming and cutting activities</p> <p>2.2 Identify and report site environmental conditions to supervisor</p> <p>2.3 Assess felled tree visually to identify defects and stresses within felled tree</p> <p>2.4 Mark felled trees too dangerous to cut safely, and refer to appropriate personnel</p>
3. Plan cutting felled trees	<p>3.1 Move or stabilise felled tree for safe cutting according to workplace procedures</p> <p>3.2 Select cutting pattern to optimise time and ensure efficient removal of sections</p> <p>3.3 Identify options for utilisation of product</p> <p>3.4 Plan cutting sequence to maintain control of cut sections and minimise cutting problems</p> <p>3.5 Select cutting positions, considering felled tree stresses</p> <p>3.6 Clear debris from work area to allow safe access and prevent saw damage and personal injury</p>
4. Use chainsaw to trim and cut felled trees	<p>4.1 Monitor location and movement of other personnel, and modify work to ensure safety</p> <p>4.2 Establish and maintain communication with team members to ensure safety</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>4.3 Secure felled tree section on each side of planned cut as required, and evaluate and control potential movement</p> <p>4.4 Operate chainsaw to cut felled tree and limbs, and adjust cutting technique in response to movement and condition of felled tree and limbs</p> <p>4.5 Apply retrieval techniques for stuck, pinched or jammed part of chainsaws</p> <p>4.6 Prepare cut sections for removal from site</p>
5. Complete equipment maintenance	<p>5.1 Follow workplace health and safety procedures and manufacturer instructions to lock out equipment</p> <p>5.2 Check chain for bluntness or damage</p> <p>5.3 Remove, sharpen, adjust or replace chain and other components according to manufacturer recommendations</p> <p>5.4 Report trimming and cutting records, equipment faults and maintenance requirements to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret workplace documentation to determine requirements
Writing	<ul style="list-style-type: none"> Use technical and workplace specific vocabulary to accurately and legibly complete workplace records and forms
Oral communication	<ul style="list-style-type: none"> Ask questions and actively listen to clarify contents of work plans

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status

FWPCOT2273 Trim and cut felled trees	FWPCOT2256 Trim and cut felled trees	Information added to Application Changes to the volume/frequency of Performance Evidence to address industry needs	Equivalent
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Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT2273 Trim and cut felled trees

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has:

- assessed and planned trimming and cutting of one felled tree
- trimmed branches and cut sections of felled tree using all cuts listed below:
 - bridging cuts
 - swinging cuts
 - boring cuts
 - wedge cuts
 - ripping cuts
 - stagger or step cuts.

In performing this task, the individual has:

- followed workplace policies and procedures, current workplace health and safety legislation, regulations and related industry standards and codes of practice applicable to trimming and cutting felled tree operations
- checked and sharpened or changed a saw chain post trimming and cutting on one occasion according to manufacturer instructions.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- environmental protection measures suitable for a worksite where trimming and cutting operations are performed, including:
 - noise control
 - protection of flora, fauna and habitat

- protection of soil
- protection of water
- disposal, recycling and reuse of waste
- cleaning of plant, equipment and tools
- protection of adjacent land uses and fixed assets
- vehicle control
- access restrictions
- fire prevention
- protection of cultural heritage
- hazard control measures suitable for a worksite where trimming and cutting operations are performed, related to:
 - trees and other vegetation
 - ground conditions
 - noise
 - fire and other emergency situations
 - vehicle and traffic access
 - foot access
 - plant, tools and equipment
 - weather conditions
 - adjacent land uses
 - dangerous goods
- tree defects and how they affect tree cutting activities, including:
 - splits
 - falling damage
 - fire damage
 - insect infestation
 - pipe
 - shake
 - twist
 - knots and resin pockets
 - the presence of foreign bodies such as stakes and nails
- felled tree stresses and how they affect tree cutting activities, including:
 - tension (fibres being stretched)
 - compression (fibres being squashed)
 - neutral fibres
- chainsaw cutting techniques and associated hazards, including:
 - bridging cut
 - swinging cut
 - side bind cut
 - boring cut

- wedge cut
- ripping cut
- stagger or step cut
- cutting patterns used to optimise time and recovery of product from felled trees
- cutting sequences used to maintain control of cut sections and minimise cutting problems
- purpose and procedures for routine operator maintenance of chainsaws
- procedures used to free a pinched or stuck chainsaw
- methods for assessing chain condition
- workplace procedures specific to felled tree trimming and cutting activities, including:
 - workplace health and safety, with particular emphasis on equipment lock-out and use of personal protective equipment (PPE)
 - communication reporting lines
 - reporting felled tree cutting outcomes, equipment faults and maintenance requirements.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in the workplace or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - chainsaw and accessories
 - suitable felled trees to trim and cut
 - PPE required in trimming and cutting felled trees
 - communication system
- specifications:
 - access to workplace health and safety and environmental protection policies and/or procedures applicable to trimming and cutting operations and chainsaw use
 - access to workplace standard operating procedures or operator manual for chainsaws.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT2275 Fell trees manually (basic)

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 9.0.

Application

This unit of competency describes the skills and knowledge required to assess and fell basic trees manually using a chainsaw, and to complete routine operator chainsaw maintenance.

The unit applies to individuals who possess existing proficiency in operating a chainsaw and are required to fell basic trees as part of arboriculture, forestry, agriculture, conservation and land management, local government, emergency services and other government agency operations. With the exception of minor forest produce, this unit does not apply to commercial harvesting operations.

Trees typical to the scope of this unit may have some of the following characteristics:

- lean and where distribution of the crown weight does not create a complex situation to assess, place the cut or fall
- no excessive lean
- no visible damage or defect
- uniform in structure
- species that are not prone to free splitting and adverse reactions during felling
- single stem or non-complex multi-stems
- small or medium diameter that is not more than chainsaw bar length and can be safely felled using standard and basic felling techniques
- site characteristics that do not add significant complexity to the operation.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for felling	<p>1.1 Determine job requirements from work order or instruction and, where required, seek clarification from appropriate personnel</p> <p>1.2 Confirm workplace health and safety and environmental protection practices and/or procedures for task</p> <p>1.3 Identify hazards, assess risks, determine appropriate control measures and record findings to mitigate risks and hazards associated with felling basic trees by conducting a documented risk assessment according to workplace procedures</p> <p>1.4 Identify, assess and determine felling requirements of trees to be felled according to work order or instruction</p> <p>1.5 Consult and maintain communication with team members and other appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.6 Select, fit and use personal protective equipment</p> <p>1.7 Obtain tools and equipment needed for the work, and check for correct operation and safety</p>
2. Assess site conditions and surroundings	<p>2.1 Inspect site for conditions likely to affect safe implementation of felling activities</p> <p>2.2 Identify and report site environmental conditions to appropriate personnel</p> <p>2.3 Determine fall zone, and implement control measures to minimise risks and hazards in the zone according to safe work procedures</p> <p>2.4 Monitor location and activity of other personnel on worksite, and implement control measures according to workplace safety procedures</p>
3. Assess tree and plan felling	<p>3.1 Identify trees considered outside own skill level, and seek assistance from appropriate personnel where required</p> <p>3.2 Assess tree visually to identify felling characteristics, defects and stresses within tree</p> <p>3.3 Confirm that tree is safe to fell</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>3.4 Assess and check required felling direction and possible deviation</p> <p>3.5 Plan sequence of cuts to fell tree according to workplace felling procedures</p> <p>3.6 Identify suitable escape routes, and clear routes of growth and other obstacles according to environmental care, workplace and regulatory requirements</p>
4. Apply tree felling techniques	<p>4.1 Fell individual trees using selected cutting techniques according to current Australian Standards and industry codes of practice</p> <p>4.2 Adjust cutting technique in response to movement and condition of tree</p> <p>4.3 Use planned escape route when tree starts to fall, and monitor the fall of the tree until all movement has stopped</p> <p>4.4 Delay movement back into the felling area until all tree material, including material from adjacent tree crowns, has fallen or is stable enough to allow safe access back into felling area</p> <p>4.5 Report trees that are hung-up to appropriate personnel according to workplace procedures</p> <p>4.6 Dispose of waste materials according to workplace environmental protection practices and/or procedures</p>
5. Maintain chainsaw and cutting attachments	<p>5.1 Follow workplace health and safety procedures and manufacturer instructions to deactivate and isolate equipment</p> <p>5.2 Inspect chainsaw on completion of activities</p> <p>5.3 Inspect for damage to chainsaw and cutting attachments, and tag for repair, service or replacement according to workplace requirements and manufacturer recommendations</p> <p>5.4 Remove, clean, adjust, sharpen or replace chain and other components according to workplace requirements and manufacturer recommendations</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret workplace documentation to determine requirements
Writing	<ul style="list-style-type: none"> Use technical and workplace specific vocabulary to accurately and legibly complete workplace records and forms
Oral communication	<ul style="list-style-type: none"> Select and use appropriate spoken communication strategies with work colleagues and other personnel on site when felling trees Interpret hand signals with other operators to ensure safe tree felling
Numeracy	<ul style="list-style-type: none"> Complete routine calculations and report on size, length and diameter of felled trees

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT2275 Fell trees manually (basic)	FWPCOT2274 Fell trees manually (basic)	Information added to Application Updates to Performance Criteria Changes to the volume/frequency of Performance Evidence and other changes to address industry needs	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT2275 Fell trees manually (basic)

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 9.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has assessed, planned and conducted the felling of a minimum of three basic trees. In felling each tree, the individual has used a chainsaw with a bar length appropriate to the tree's diameter and made a standard scarf cut facing the direction of intended fall.

In performing this cut, the individual must have ensured that:

- the scarf cut includes a top cut angled at 30° to 45° and a depth of 1/4 to 1/3 of the tree diameter and a horizontal flat bottom cut that meets precisely with the lowest part of the top cut
- the back cut is parallel to and above the scarf line by 1/10 (or 10%) of the tree diameter
- a minimum 1/10 (or 10%) of the tree diameter remains uncut, leaving hinge wood.

In performing this cut, the individual must have also demonstrated, at least once, the application of the wedge technique to ensure that the tree falls in the direction intended by the scarf cut.

There must also be evidence that the individual has documented a risk assessment for at least one of the felled trees. This documentation must detail localised hazards and risks associated with tree felling and specify methods to minimise these risks.

In completing this work, the individual must demonstrate correct use of personal protective equipment and that, for each tree, the felling technique was consistent with current Australian Standards and industry codes of practice applicable to tree felling operations.

In addition, there must be evidence that, on at least one occasion, the individual has sharpened one chain, inspected and carried out routine maintenance on one chainsaw and its cutting attachments according to manufacturer requirements.

This work must comply with workplace policy and procedures and current workplace health and safety legislation and regulations.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- Australian Standards and codes of practice applicable to tree felling operations
- hazards and risks related to felling trees with chainsaws, and methods to minimise associated risks, including:
 - physical conditions of the site
 - unsafe/hazardous trees
 - fire and other emergency situations
 - overhead and underground services
 - nearby structures
 - standing vegetation in the intended direction of fall
 - falling branches
 - weather conditions
 - impediments of escape routes
 - vehicle and traffic access
 - people on or near worksite
 - machinery on or near worksite
 - carrying and transporting a chainsaw
 - user fatigue
- hazards related to maintaining chainsaws, and methods to minimise associated risks
- features of unsafe/hazardous basic trees and defects of trees and how they affect tree felling activities
- characteristics of basic trees
- methods used to identify basic trees:
 - that contain hazards and are deemed unsafe to fell
 - that are considered outside own skill level
 - where cuts made may lead to loss of control of tree in felling
- types and purposes of cuts to fell basic trees, including scarf cutting and back cutting using different methods to provide hinge wood and wedges to maintain control of tree
- methods for assessing chain condition
- types, safe use, operation and maintenance of chainsaws, support tools and attachments
- workplace procedures specific to felling trees with chainsaws, including:
 - workplace health and safety, with particular emphasis on deactivating and isolating equipment, use of personal protective equipment (PPE), safe manual handling and fire prevention measures
 - communication reporting lines
 - recording and reporting repairs, maintenance activities and equipment faults
- environmental protection requirements and practices that meet legal obligations and requirements of the industry, state and local standards and/or codes of practice for felling trees with chainsaws, including:

- protection of natural and cultural assets
- cleaning plant, tools and equipment
- disposing of, recycling and reusing materials
- disposing of hazardous substances.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in the workplace or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - chainsaw and accessories
 - suitable trees to fell
 - PPE required in tree felling operations
 - communication system
- specifications:
 - workplace safety and environmental policies and/or procedures applicable to tree felling and chainsaw operations
 - site emergency procedure
 - workplace standard operating procedures or operator manual for chainsaws.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3226 Assess timber for manufacturing potential

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to assess timber for its manufacturing potential for frame or truss construction. It includes assessing timber for the ability to hold nail plates and retain engineered strength ratings.

The unit applies to timber fabricators or manufacturing assistants who take responsibility for organising and completing tasks with a high degree of self-direction.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for assessing	1.1 Determine job requirements from work orders and identify type and quantity of material for processing, seeking clarification from appropriate person where required 1.2 Confirm safety and environmental requirements for the task according to workplace and environmental and safety procedures 1.3 Sequence stages for timber assessment and movement of materials

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	to maximise production outputs 1.4 Access storage area and select materials according to work order requirements
2. Assess timber	2.1 Assess timber visually and evaluate characteristics and defects against industry and Australian Standards to determine manufacturing potential 2.2 Measure sectional sizes and lengths of materials according to job specifications 2.3 Separate materials unsuitable for plating or sawing according to assessment 2.4 Orientate timber components to optimise use of characteristics
3. Distribute material	3.1 Organise movement of material for processing operations according to workplace procedures 3.2 Label material using numerical grades according to workplace procedures 3.3 Monitor on-site movement of material to ensure intended work flow is achieved 3.4 Recycle unsuitable timber for plating to minimise wastage, and relocate to storage area 3.5 Dispose of defective material according to workplace environmental policies and procedures 3.6 Record assessment outcomes and distribution problems, and report to appropriate person

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret information from industry standards to determine manufacturing potential of various timber characteristics

Skill	Description
Writing	<ul style="list-style-type: none"> Structure simple assessment reports using appropriate concise vocabulary
Oral communication	<ul style="list-style-type: none"> Ask questions and actively listen to confirm work orders or instructions

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3226 Assess timber for manufacturing potential	FWPCOT2235 Assess timber for manufacturing potential	Level of skill complexity revised Application clarified Performance Criteria re-sequenced Foundation Skills and Assessment Requirements updated	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3226 Assess timber for manufacturing potential

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has visually assessed at least three different types of timber for manufacturing potential for one timber wall frame and one timber roof or floor truss project, and has:

- used at least two of the following tools in assessments:
 - charts
 - gauges
 - picture cards
 - measuring equipment
- completed an assessment report for each project, identifying timber characteristics, defects and impacts on nail plate holding ability.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- guidelines, codes and standards for provisions of relevant engineered strength ratings and timber ability to hold nail plates
- workplace policies and procedures relating to timber assessment:
 - labelling of assessed timber products
 - lines of communicating and reporting
 - reporting and recording outcomes
 - orientating components to make best use of timber characteristics
- workplace safety and environmental procedures for undertaking timber assessment and disposal of defective timber products
- characteristics, properties and limitations of potential timber products for manufacturing

- defects of hardwoods and softwoods timber products and impacts on nail plate holding ability:
 - wane/want and collapse
 - bow, spring and twist
 - cupping and other distortion
 - knots and knot holes
 - borer damage
 - gum/resin veins and pockets
 - decay
 - end splits, internal checks and surface checks
 - low density material
 - compression failures and fractures
 - durability
 - heart in material
 - joint strength
- industry standard timber species and materials and nail plate holding ability:
 - native timber species
 - imported timber species
 - dressed timber
 - in-the-rough timber
 - stress and non-stress graded timber
 - preservative treated timber
 - laminated veneer coated and treated timber products
- beams or laminated beams
- industry standard lengths, cross sections and grades, and impact on nail plate holding ability
- timber visual assessment techniques
- tools used to assess timber products:
 - charts
 - gauges
 - picture cards
 - measuring equipment
- industry terminology relating to assessing timber for manufacturing potential.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber fabrication workplace or an environment that accurately represents workplace conditions

- resources, equipment and materials:
 - tools to assess timber for manufacturing potential
 - at least three different types of timber to be assessed
- specifications:
 - access to work orders and standards and codes of practice related to assessing timber for manufacturing potential
 - access to workplace safety and environmental policies and procedures applicable to assessing timber in a fabrication workplace

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3234 Cut material using CNC sizing machines

Modification History

Release	Comments
Release 2	This version released with FWP Forest and Wood Products Training Package Version 4.0.
Release 1	This version replaces equivalent FPICOT3234B Cut material using CNC sizing machines, which was first released with FPI11 Forest and Forest Products Training Package Version 2.2. This is the first release of this unit in the new standards format.

Application

This unit of competency describes the skills and knowledge required to set up and operate computer numerical control (CNC) sizing machines to achieve accurate dimensional cuts of engineered wood products and timber components in a manufacturing facility. Work also involves operator maintenance.

The unit applies to individuals who work as production workers, engineered timber products technicians, machine operators or timber fabricators. Operators generally work under broad or limited direction to complete routine activities related to their own work, and take responsibility for their work.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for cutting engineered wood product or timber	<p>1.1 Review work order, specifications, workplace health and safety requirements, environmental protection practices and emergency procedures for CNC cutting operations and, where required, check with appropriate personnel</p> <p>1.2 Identify and report hazards and use personal protective equipment according to workplace requirements and health and safety legislation to maintain safe work practices</p> <p>1.3 Obtain the type and quantity of material to be cut from a storage location</p>
2. Set up the CNC sizing machine	<p>2.1 Set CNC optimising program to meet work specifications</p> <p>2.2 Check the CNC cutting machine mechanisms, emergency stops, gauges, guards and controls for safe and effective operation</p> <p>2.3 Adjust the CNC cutting machine settings according to work specifications</p> <p>2.4 Complete trial run to check system and machine operation for accuracy, quality and dimensions of finished work</p> <p>2.5 Accept or reject trialled material and dispose of according to environmental protection practices</p> <p>2.6 Complete final adjustments to CNC optimising program, cutting tools and equipment</p>
3. Operate the CNC sizing machine	<p>3.1 Use the CNC sizing machine, cutting tools and equipment according to workplace health and safety procedures, manufacturer instructions, operating capacity and purpose and environmental protection practices</p> <p>3.2 Feed engineered wood product or timber into the CNC machine, operate cutting tools according to tooling requirements and regularly monitor to minimise waste and ensure correct dimensions are produced</p> <p>3.3 Repair or dispose of incorrect cuts, off-cuts and material with defects according to environmental protection practices</p> <p>3.4 Identify routine processing problems and resolve or report to appropriate personnel</p>
4. Complete operator maintenance	4.1 Lock out the CNC sizing machine according to workplace health and safety procedures

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	4.2 Check blades for bluntness or damage 4.3 Remove and replace blades according to manufacturer recommendations 4.4 Dispose of used blades according to environmental protection practices 4.5 Keep machine clear of dust and debris according to organisational safety procedures 4.6 Record and report production outcomes, machine and equipment faults and maintenance requirements to appropriate personnel

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Numeracy	<ul style="list-style-type: none"> Identify quantities of required material within work orders, and count numbers to be cut Set numerical data on CNC optimising program according to sizing specifications Calculate the feed rate to optimise quality and quantity of production output Measure finished dimensions against specifications and allowable tolerances
Navigate the world of work	<ul style="list-style-type: none"> Understand main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> Use modes of communication suitable for the purpose to confirm and clarify understanding
Get the work done	<ul style="list-style-type: none"> Recognise and respond to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3234 Cut material using CNC sizing machines Release 2	FWPCOT3234 Cut material using CNC sizing machines Release 1	Updated workplace health and safety requirements and foundation skills; and clarified intent of unit and assessment requirements.	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3234 Cut material using CNC sizing machines

Modification History

Release	Comments
Release 2	This version released with FWP Forest and Wood Products Training Package Version 4.0.
Release 1	This version replaces equivalent FPICOT3234B Cut material using CNC sizing machines, which was first released with FPI11 Forest and Forest Products Training Package Version 2.2. This is the first release of this unit in the new standards format.

Performance Evidence

An individual demonstrating competency in this unit must satisfy all of the elements and performance criteria of this unit. There must be evidence that, on at least one occasion, the individual has:

- followed organisational workplace health and safety requirements and environmental protection procedures for cutting engineered wood product or timber using one or both of the following types of computer numerical control (CNC) sizing machines:
 - CNC beam saw
 - CNC double end profiling machine
- set computer programs for the CNC sizing machines according to work specifications
- cut one or more of the following types of engineered wood product or timber using the CNC sizing machines according to work specifications, manufacturer recommendations and within prescribed organisational tolerances:
 - glued laminated beams (glulam)
 - cross-laminated timber (CLT)
 - laminated veneer
 - chipboard
 - medium density fibreboard
 - dressed timber
 - preservative treated timber
- conducted operator maintenance on the CNC sizing machines, cutting tools and equipment.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- health and safety hazards or risks related to operating CNC sizing machines for cutting engineered wood products or timber as identified through risk assessments, manufacturer technical information, regulations and industry health and safety guides
- workplace policies and procedures specific to cutting material using CNC sizing machines:
 - health and safety, with particular emphasis on equipment lockout and the use of personal protective equipment (PPE)
 - use of CNC sizing machines, cutting tools and equipment
 - communication reporting lines
 - recording and reporting production outcomes, machine and equipment faults and maintenance requirements
- environmental protection practices for manufacturing facilities:
 - reducing water and energy use
 - cleaning plant, cutting tools and equipment
 - disposing of, recycling and reusing timber and other waste
- range of cutting patterns used with CNC sizing machines to achieve accurate dimensions and quality of the finished product
- characteristics of timber, timber products and timber defects
- system functions and capabilities of CNC software for sizing machines, including cutting patterns and sequences
- purpose, features and operation of CNC sizing machines:
 - CNC beam saws
 - CNC double end profiling machines
- methods for assessing saw blade condition.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - one or both types of CNC sizing machines
 - computer program for sizing machines
 - maintenance tools for CNC sizing operations
 - saw blades suitable for CNC sizing machines
 - PPE suitable for cutting material using CNC sizing machines

- engineered wood product or timber suitable for cutting operations using CNC sizing machines
- CNC program suitable for the cutting operations
- specifications:
 - manufacturer instructions for use and maintenance of equipment
 - work order with specific instructions for cutting material using CNC sizing machines
 - workplace policies and procedures for cutting material using CNC sizing machines, including health and safety and emergency procedures and environmental protection procedures
 - template documents for recording production outcomes, equipment faults and maintenance requirements.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3271 Hand sharpen knives and blades for commercial and domestic cutting services

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to hand sharpen knives and blades using files and grinders for a range of commercial and domestic services that use hand drill bits, hand chainsaw, scissors, wood chisels, garden tools and other cutting tools.

The unit applies to individuals who sharpen machine knives and blades in a saw technician workshop or sawmill facility.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for sharpening	1.1 Review work order to determine job requirements and, where required, seek clarification from appropriate personnel

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.2 Review workplace health and safety procedures, including the use of personal protective equipment, equipment lock-out and safe manual handling techniques</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with hand sharpening knives and blades</p> <p>1.4 Identify workplace environmental protection procedures for minimising and disposing of waste material, cleaning tools and equipment, and maximising energy efficiency</p> <p>1.5 Remove and replace knives or blades to be sharpened from designated machinery</p> <p>1.6 Select sharpening equipment appropriate to the type of knife or blade and work requirements, and check for operational effectiveness</p>
2. Assess knife or blade condition and set up for sharpening	<p>2.1 Identify defects and assess the cutting performance of knife or blade for sharpening requirements</p> <p>2.2 Clean knife or blade holders to workplace standards</p> <p>2.3 Assess condition of knife or blade holder, and correct defects</p> <p>2.4 Select jig setting for knife or blade assembly</p> <p>2.5 Separate and re-assemble knife or blade assembly according to manufacturer recommendations</p>
3. Sharpen knives or blades	<p>3.1 Clean excess build-up from knives or blades and inspect for defects, replacing those unable to be repaired by sharpening</p> <p>3.2 Select geometry for knives or blades from manufacturer instructions</p> <p>3.3 Select manual sharpening equipment and suitable attachment for holding the knife or blade</p> <p>3.4 Feed sharpening equipment across knife or blade, into cutting edge, to obtain clean cutting edge that conforms with geometric requirements without defects and burns</p> <p>3.5 Inspect knife or blade after sharpening for accuracy, and hone remaining burrs to obtain a sharp cutting edge</p> <p>3.6 Identify, record and report sharpening and equipment faults to the appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria

Skill	Description
Numeracy	<ul style="list-style-type: none"> Identifies the pitch and angle that a knife or blade is sharpened at
Interact with others	<ul style="list-style-type: none"> Uses modes of communication suitable to purpose to confirm and clarify understanding
Get the work done	<ul style="list-style-type: none"> Recognises and responds to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3271 Hand sharpen knives and blades for commercial and domestic cutting services	FWPCOT3201 Hand sharpen knives and blades	Updated application statement; revised knowledge evidence; updated unit code and title to reflect changes and for compliance	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3271 Hand sharpen knives and blades for commercial and domestic cutting services

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has:

- followed work order and relevant workplace health and safety and environmental protection procedures
- prepared for hand sharpening of knives or blades
- safely and effectively hand sharpened knives or blades using powered and manual sharpening equipment
- removed and replaced knives or blades from designated machinery
- recorded and reported workplace activity.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- regulations, standards, codes of practice and established safe practices for hand sharpening knives and blades
- geometry of knives and blades, including the pitch and angle that a knife or blade is sharpened at, allowing for the device that the knife or blade is in and the material to be cut
- defects in the cutting edges of knives and blades:
 - burrs
 - burns
 - chips
 - splits
 - dents
- characteristics of different types of metal knives and blades:
 - drill bits
 - hand chainsaw

- clipper blades
- gardening tools
- scissors
- wood chisels
- mincer blades
- shears
- other cutting equipment types with knives or blades
- sharpening methods and geometry:
 - pitch
 - depth of cut
 - speed the knife or blade is sharpened at to obtain a sharp edge
- basic knowledge of physics of knives or blades, including:
 - blade material and properties
 - impact of material-to-be-cut properties on knives or blades
 - direction of cut
 - forces on a knife or blade
 - heat removal when relevant
 - knife or blade configuration
- types, safe use and maintenance of manual sharpening equipment:
 - power-driven sharpening equipment with procedures for safe use and lock-out
 - files (round, triangular, square and flat)
 - honing tools
 - saw sets
- risks and hazards associated with hand sharpening knives and blades
- workplace procedures for hand sharpening knives and blades:
 - workplace health and safety with particular emphasis on equipment lock-out, use of personal protective equipment (PPE) and safe manual handling techniques
 - recording and reporting production outcomes and equipment faults
 - communication channels and protocols
- environmental protection requirements, including the safe disposal of waste material and the cleaning of plant, tools and equipment.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a saw technician workshop, a sawmill facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - PPE suitable for hand sharpening knives and blades

- equipment from which knives and blades are to be removed for inspection and sharpening
- knives and blades to be hand sharpened
- power-driven sharpening equipment with procedures for safe use and lock-out
- files (round, triangular, square and flat)
- honing tools
- saw sets
- specifications:
 - manufacturer instructions for use, repair and maintenance of equipment
 - work order with specific instructions for hand sharpening knives and blades
 - workplace procedures for sharpening knives and blades.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3272 Set up and run multi-head moulder/planer to produce simple profiles

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to set up and run a computer numerically controlled (CNC) or semi-automated multi-head moulder/planer to produce timber with simple profiles such as DAR (dressed all round) boards, either with a square edge or pencil round edge, or skip-dressed boards.

The unit applies to individuals who set up and run multi-head moulders/planers in a timber processing or manufacturing facility to produce timber with simple profiles.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for work	1.1 Review work order to determine job requirements and, where

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>required, seek clarification from appropriate personnel</p> <p>1.2 Review workplace health and safety procedures, including the use of personal protective equipment, equipment lock-out and safe manual handling techniques</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with setting up and running a multi-head moulder/planer</p> <p>1.4 Identify workplace environmental protection procedures for minimising and disposing of waste material, cleaning tools and equipment, and maximising energy efficiency</p> <p>1.5 Consult with appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.6 Obtain tools, equipment and testing devices needed for the work, and check for correct operation and safety</p>
2. Select and fit cutter heads for simple timber profile	<p>2.1 Select cutter heads consistent with required timber profile</p> <p>2.2 Check cutter heads for damage and defects according to manufacturer and workplace procedures</p> <p>2.3 Prepare cutter head according to manufacturer procedures</p>
3. Complete set-up	<p>3.1 Adjust machine components to meet product requirements</p> <p>3.2 Set safety hoods and machine guards according to manufacturer and workplace safety requirements</p> <p>3.3 Calculate feed speed and set in relation to timber size, profile and species according to workplace procedures</p>
4. Calibrate moulder/planer	<p>4.1 Remove setting-up tools and other tools and equipment from the moulder/planer according to workplace procedures</p> <p>4.2 Complete start-up check according to workplace procedures</p> <p>4.3 Run test piece through the moulder/planer to check equipment operation, accuracy, quality and dimensions of finished work</p> <p>4.4 Accept or reject trialled material and dispose of according to environmental protection practices</p> <p>4.5 Adjust components until output timber conforms to the required profile</p>
5. Operate multi-head moulder/planer	<p>5.1 Maintain feed rate appropriate to machine capability, timber condition and board size</p> <p>5.2 Assess dressing conditions regularly to ensure continuity of supply</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>and processing</p> <p>5.3 Adjust conditions to optimise feed rate and maintain finished dimensions according to work order requirements</p> <p>5.4 Regularly evaluate finish and measure dressed board dimensions, and make adjustments to ensure product quality and required dimensions</p> <p>5.5 Dispose of incorrect cuts, off-cuts and defective material according to environmental protection practices</p>
6. Monitor multi-head moulder/planer	<p>6.1 Monitor in-feed and out-feed of timber to prevent degrading of the output product</p> <p>6.2 Monitor quality of output product and make adjustments to correct identified quality issues according to workplace procedures</p> <p>6.3 Monitor and maintain supplies of timber to ensure consistent operation of the moulder/planer</p>
7. Maintain multi-head moulder/planer	<p>7.1 Follow workplace safety procedures to lock out equipment</p> <p>7.2 Check, remove and replace blunt and damaged cutters according to manufacturer recommendations</p> <p>7.3 Dispose of used cutters according to environmental protection practices</p> <p>7.4 Monitor dust extraction system during operation to ensure compliance with workplace health and safety requirements</p> <p>7.5 Keep machine area clear of dust and debris according to workplace health and safety procedures</p> <p>7.6 Record and report production outcomes, equipment faults and maintenance requirements to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description

Skill	Description
Reading	<ul style="list-style-type: none"> Extracts essential information from workplace documents on the operation of multi-head moulders/planers
Writing	<ul style="list-style-type: none"> Prepares routine written reports that inform others about the outcomes of work activities
Oral communication	<ul style="list-style-type: none"> Employs active listening and questioning to clarify information on process flow in sawmills
Numeracy	<ul style="list-style-type: none"> Measures finished dimensions against specifications and allowable tolerances
Navigate the world of work	<ul style="list-style-type: none"> Understands main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> Uses modes of communication suitable to purpose to confirm and clarify understanding
Get the work done	<ul style="list-style-type: none"> Recognises and responds to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3272 Set up and run multi-head moulder/planer to produce simple profiles	FWPCOT3266 Dress timber using multi-headed machines	This unit and FWPCOT3273 have replaced FWPCOT3266 for creating specific skills required of operators using multi-head moulder/planer to produce timber with simple profiles	No equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3272 Set up and run multi-head moulder/planer to produce simple profiles

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has:

- set up and run a multi-head moulder/planer to produce timber with any of the following simple profiles:
 - dressed all round (DAR) boards, either with a square edge or pencil round edge
 - skip-dressed boards
- in doing the above job:
 - followed work order and relevant workplace health and safety and environmental protection procedures
 - selected and fitted cutter heads for a profile specified in a work order
 - calibrated the moulder/planer to ensure output timber conforms to the required profile
 - run the moulder/planer
 - completed workplace reports on set-up, calibration and production activities.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- purpose, features, operating parameters, components and operation of multi-head moulders/planers
- equipment used in setting up and running multi-head moulders/planers
- types of cutters used to produce simple profiles
- types and applications of simple profiles:
 - DAR timber boards, either with a square edge or pencil round edge
 - skip-dressed timber boards
- cutter head damage and defects:

- types
- effects
- corrective actions
- multi-head moulder/planer machine components:
 - cutters
 - fences
 - guides
 - bed plates
 - rollers
 - beam
- variables impacting on the finished quality of machined timber:
 - machine variables, including cutting speed, cutter pitch, feed speed, cutting angles, cutter sharpness
 - timber variables, including moisture content, grade, age, species
- feed rates and how they affect production output and finished quality of timber boards
- methods for calculating feed speed
- factors that impact on the selection of feed speed:
 - size
 - profile
 - species
- typical timber defects and how these impact on the quality of finished product:
 - warp
 - wane
 - cupping
 - shakes
 - insect defects
 - knots
 - resin pockets
- industry standard profiles, lengths, cross-sections and tolerances and applicable terminology
- cutting patterns used on boards to achieve maximum volume recovery
- methods for assessing cutter condition
- types of risk and hazards and mitigation measures associated with dressing boards using multi-head moulders/planers
- workplace procedures specific to dressing boards using multi-head moulders/planers:
 - workplace health and safety, with particular emphasis on equipment lock-out, use of personal protective equipment (PPE) and safe manual handling techniques
 - communication reporting lines
 - recording and reporting production outcomes, equipment faults and maintenance requirements
 - environment protection legislation relating to sawmill operations.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing or manufacturing facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - multi-head moulder/planer
 - cutters for simple profiles
 - tools for setting up and calibrating multi-head moulders/planers
 - PPE suitable for setting up and running multi-head moulders/planers
- specifications:
 - template documents for recording outcomes of setting up and running multi-head moulders/planers
 - manufacturer instructions for setting up and running multi-head moulders/planers
 - work order with specific instructions for setting up and running multi-head moulders/planers
 - workplace procedures for setting up and running multi-head moulders/planers.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3273 Set up and run multi-head moulder to produce complex profiles

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to set up and run a computer numerically controlled (CNC) or semi-automated multi-head moulder in a sawmill to produce timber with complex profiles such as tongue and groove flooring, lining board, shiplap, joinery profiles and other detailed mouldings.

The unit applies to individuals who set up and run multi-head moulders in a sawmill to produce timber with complex profiles.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for work	1.1 Review work order to determine job requirements and, where

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>required, seek clarification from appropriate personnel</p> <p>1.2 Review workplace health and safety procedures, including the use of personal protective equipment, equipment lock-out and safe manual handling techniques</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with setting up and running a moulder to produce complex profiles</p> <p>1.4 Identify workplace environmental protection procedures for minimising and disposing of waste material, cleaning tools and equipment, and maximising energy efficiency</p> <p>1.5 Consult with appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.6 Obtain tools, equipment and testing devices needed for the work, and check for correct operation and safety</p>
2. Select and fit cutter heads for complex timber profile	<p>2.1 Select cutter heads consistent with required timber profile</p> <p>2.2 Check cutter heads for damage and defects according to manufacturer and workplace procedures</p> <p>2.3 Prepare cutter head according to manufacturer procedures</p> <p>2.4 Select and fit splitting units, as required, according to workplace procedures to produce required timber sizes</p>
3. Complete set-up	<p>3.1 Adjust machine components to meet product requirements</p> <p>3.2 Set safety hoods and machine guards according to manufacturer and workplace safety requirements</p> <p>3.3 Calculate feed speed and set in relation to timber size, profile and species according to workplace procedures</p>
4. Calibrate moulder	<p>4.1 Remove setting-up tools and other tools and equipment from the moulder according to workplace procedures</p> <p>4.2 Complete start-up check according to workplace procedures</p> <p>4.3 Run test piece through the moulder to check equipment operation, accuracy, quality and dimensions of finished work</p> <p>4.4 Accept or reject trialled material and dispose of according to environmental protection practices</p> <p>4.5 Monitor dust extraction system during the test run and test piece machining to ensure compliance with workplace health and safety</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>requirements</p> <p>4.6 Adjust components until output timber conforms to the required profile</p> <p>4.7 Check operation of branding equipment and install brand, as required, according to workplace procedures</p> <p>4.8 Reset tally meter as required according to workplace procedures</p> <p>4.9 Record and report outcomes of set-up and calibration activities, including equipment faults and maintenance requirements, to appropriate personnel</p>
5. Operate multi-head moulder	<p>5.1 Maintain feed rate appropriate to machine capability, timber condition and board size</p> <p>5.2 Assess dressing conditions regularly to ensure continuity of supply and processing</p> <p>5.3 Adjust conditions to optimise feed rate and maintain finished dimensions according to work order requirements</p> <p>5.4 Regularly evaluate finish and measure dressed board dimensions, and make adjustments to ensure product quality and required dimensions</p> <p>5.5 Dispose of incorrect cuts, off-cuts and defective material according to environmental protection practices</p>
6. Monitor multi-head moulder	<p>6.1 Monitor in-feed and out-feed of timber to prevent degrading of output product</p> <p>6.2 Monitor quality of output product and make adjustments to correct identified quality issues according to workplace procedures</p> <p>6.3 Monitor and maintain supplies of timber to ensure consistent operation of the moulder</p>
7. Maintain multi-head moulder	<p>7.1 Follow workplace safety procedures to lock out equipment</p> <p>7.2 Check cutter for bluntness or damage</p> <p>7.3 Remove and replace cutters according to manufacturer recommendations</p> <p>7.4 Dispose of used cutters according to environmental protection practices</p> <p>7.5 Monitor dust extraction system during operation to ensure compliance with workplace health and safety requirements</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>7.6 Keep machine area clear of dust and debris according to workplace health and safety procedures</p> <p>7.7 Record and report production outcomes, equipment faults and maintenance requirements to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extracts essential information from workplace documents on the operation of multi-head moulders
Writing	<ul style="list-style-type: none"> Prepares routine written reports that inform others about the outcomes of work activities
Oral communication	<ul style="list-style-type: none"> Employs active listening and questioning to clarify information on process flow in sawmills
Numeracy	<ul style="list-style-type: none"> Measures finished dimensions against specifications and allowable tolerances
Navigate the world of work	<ul style="list-style-type: none"> Understands main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> Uses modes of communication suitable to purpose to confirm and clarify understanding
Get the work done	<ul style="list-style-type: none"> Recognises and responds to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3273 Set up and run multi-head	FWPCOT3266 Dress timber using multi-headed	This unit and FWPCOT3272 have replaced FWPCOT3266 for creating specific skills	No equivalent unit

moulder to produce complex profiles	machines	required of operators using multi-head moulder/planer to produce timber with complex profiles	
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Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3273 Set up and run multi-head moulder to produce complex profiles

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has:

- set up and run a multi-head moulder to produce timber with any of the following complex profiles according to work order:
 - tongue and groove flooring
 - lining board
 - shiplap
 - joinery profiles
 - other detailed mouldings
- in doing the above job:
 - worked safely, including following workplace health and safety and environmental procedures
 - selected and fitted cutter heads for a profile specified in a work order
 - calibrated the moulder to ensure output timber conforms to the required profile
 - run the moulder
 - completed workplace reports on set-up and calibration activities.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- purpose, features, operating parameters, components and operation of multi-head moulders
- equipment used in setting up and running multi-head moulders
- types of cutters used to produce complex profiles
- types and applications of complex profiles:

- tongue and groove flooring
- lining board
- shiplap
- joinery profiles
- other detailed mouldings
- cutter head damage and defects:
 - types
 - effects
 - corrective actions
- multi-head moulder machine components:
 - cutters
 - fences
 - guides
 - bed plates
 - rollers
 - beam
- variables impacting on the finished quality of machined timber:
 - machine variables, including cutting speed, cutter pitch, feed speed, cutting angles, cutter sharpness
 - timber variables, including moisture content, grade, age, species
- feed rates and how they affect production output and finished quality of timber boards
- methods for calculating feed speed
- factors that impact on the selection of feed speed:
 - size
 - profile
 - species
- typical timber defects and how these impact on the quality of finished timber product:
 - warp
 - wane
 - cupping
 - shakes
 - insect defects
 - knots
 - resin pockets
- industry standard profiles, lengths, cross-sections and tolerances and applicable terminology
- cutting patterns used on timber boards to achieve maximum volume recovery
- methods for assessing cutter condition
- types of risk and hazards and mitigation measures associated with dressing timber boards using multi-head moulders
- workplace procedures specific to dressing timber boards using multi-head moulders:

- workplace health and safety, with particular emphasis on equipment lock-out and use of personal protective equipment (PPE)
- communication reporting lines
- recording and reporting of production outcomes, equipment faults and maintenance requirements
- environment protection legislation relating to sawmill operations.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber sawmill or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - multi-head moulder
 - cutters for complex profiles
 - tools for setting up and calibrating multi-head moulders
 - PPE suitable for setting up and running multi-head moulders
- specifications:
 - template documents for recording outcomes of setting up and running multi-head moulders
 - manufacturer instructions for setting up and running multi-head moulders
 - work order with specific instructions for setting up and running multi-head moulders
 - workplace procedures for setting up and running multi-head moulders.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3274 Cut timber products using high-speed optimiser

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to prepare and cut timber products to differing lengths and angles using computer numerical control (CNC) optimising docking and trimming saws.

The unit applies to individuals who cut timber products using a high-speed optimiser in a timber processing or timber product manufacturing plant.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for cutting timber product	1.1 Review work order to determine job requirements and, where required, seek clarification from appropriate personnel 1.2 Review workplace health and safety procedures, including the use of personal protective equipment, equipment lock-out and safe manual

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>handling techniques</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with cutting timber products using a high-speed optimiser</p> <p>1.4 Identify workplace environmental protection procedures for minimising and disposing of waste material, cleaning tools and equipment, and maximising energy efficiency</p> <p>1.5 Obtain type and quantity of timber product to be cut from a storage location</p> <p>1.6 Identify required cutting patterns and saw set-up sequences</p>
2. Operate CNC optimising saws	<p>2.1 Perform pre-operational checks according to manufacturer and workplace procedures</p> <p>2.2 Select and set computer software program to job specifications and check machine cycle</p> <p>2.3 Complete trial run to verify system operation and check timber product for length and angle specification within the set tolerance</p> <p>2.4 Use machine according to workplace safety procedures, manufacturer instructions and environmental protection practices</p> <p>2.5 Load timber product into the machine and operate to minimise waste and ensure correct lengths and angles are produced</p> <p>2.6 Monitor the process regularly to ensure continuity of material flow, and quality and quantity of production output</p> <p>2.7 Redirect incorrect cuts, off-cuts and timber product with defects for reuse, recycling or disposal according to workplace procedures and environmental protection practices</p> <p>2.8 Identify routine processing problems, and resolve or report to appropriate personnel</p>
3. Perform operator maintenance	<p>3.1 Lock out machine and equipment according to workplace safety procedures</p> <p>3.2 Check saw blades for bluntness or damage</p> <p>3.3 Remove and replace saw blades according to manufacturer recommendations</p> <p>3.4 Dispose of used blades according to environmental protection practices</p> <p>3.5 Keep the work area clear of dust and debris according to workplace safety procedures</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	3.6 Record and report production outcomes, equipment faults and maintenance requirements to appropriate personnel

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extracts essential information from operational manuals to determine safe operating procedures for equipment
Writing	<ul style="list-style-type: none"> Prepares routine written reports using the required format, language and structure
Oral communication	<ul style="list-style-type: none"> Employs active listening and questioning to clarify the content of work orders
Numeracy	<ul style="list-style-type: none"> Interprets graphical information presented in electronic and print formats Sets numerical data on computer optimising program according to length and angle specifications Measures finished dimensions for specified length and angle and allowable tolerances
Navigate the world of work	<ul style="list-style-type: none"> Understands main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> Uses modes of communication suitable to purpose to confirm and clarify understanding

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3274 Cut timber products using	FWPCOT3206 Cut material using high speed optimiser	Updated application statement; updated performance criteria to reflect environmental and	Equivalent unit

high-speed optimiser		workplace health and safety requirements; updated foundation skills; added performance evidence to map to performance criteria; updated unit title and code to reflect changes	
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Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3274 Cut timber products using high-speed optimiser

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has:

- cut three or more of the following timber products using a high-speed optimiser, according to work order:
 - laminated veneer timber
 - plywood
 - chipboard
 - medium density fibreboard
 - dressed timber
 - preservative treated timber
 - finger jointed timber
- in doing the above job, the individual has:
 - read and clarified work order
 - followed relevant workplace health and safety and environmental protection procedures
 - prepared computer numerical control (CNC) optimising saw for cutting timber product at a specified length and angle
 - identified cutting pattern
 - set optimising software program
 - operated machine and equipment according to manufacturer procedures
 - monitored production output and quality
 - performed operator maintenance.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- features, programming and operation of CNC optimising docking and trimming saws
- range of cutting patterns used with CNC optimising saws to achieve maximum output of timber product
- range of industry standard lengths, cross-sections and tolerances for relevant timber products and applicable terminology
- methods for assessing saw blade condition
- methods of monitoring production output and quality
- types of risk and hazards and mitigation measures associated with cutting timber products using high-speed optimisers
- workplace procedures specific to cutting timber products using high-speed optimisers:
 - workplace health and safety, with particular emphasis on equipment lock-out and use of personal protective equipment (PPE)
 - communication reporting lines
 - recording and reporting production outcomes, equipment faults and maintenance requirements
- environmental protection practices for timber processing or wood product manufacturing plants:
 - reducing water and energy use
 - cleaning plant, tools and equipment
 - disposing of, recycling and reusing timber and other waste.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing plant, a wood product manufacturing plant or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - CNC optimising docking and trimming saws
 - a computer program for optimising saws
 - maintenance tools and equipment for optimising saws
 - consumable saw blades
 - PPE suitable for cutting timber using high-speed optimisers
 - three or more of the following types of timber products: laminated veneer timber, plywood, chipboard, medium density fibreboard, dressed timber, preservative treated timber, finger jointed timber
- specifications:

- template documents for recording production outcomes, equipment faults and maintenance requirements
- manufacturer instructions for use and maintenance of equipment
- work order with specific instructions for cutting material using high-speed optimisers
- workplace procedures for cutting material using high-speed optimisers.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3275 Set up, operate and maintain end matching machines

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to coordinate operational logistics for end matching activities that include planning schedules for operators, setting up equipment for production runs, resolving processing problems and coordinating equipment shut-down and maintenance.

The unit applies to individuals who set up, operate and maintain end matching operations in a timber processing or manufacturing facility.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for end	1.1 Review production orders for grades, quantities of timber

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
matching operations	<p>requiring rework, cross-sections and end use</p> <p>1.2 Review workplace health and safety procedures, including the use of personal protective equipment, equipment lock-out and safe manual handling techniques</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with operating end matching machines</p> <p>1.4 Identify workplace environmental protection procedures for minimising and disposing of waste material, cleaning tools and equipment and maximising energy efficiency</p> <p>1.5 Plan end matching operations according to production requirements and workplace procedures</p> <p>1.6 Develop end matching schedule to ensure optimum production outcomes and maximise equipment, labour and material use</p> <p>1.7 Communicate end matching schedule to operators according to workplace procedures</p>
2. Set up end matching machine and operation	<p>2.1 Check end matching machine and equipment for operational effectiveness and adjust set-up to meet production requirements</p> <p>2.2 Select, check, prepare and install cutters to suit end profile and timber cross-section</p> <p>2.3 Set feed rates, guides and conveyors to suit timber cross-section and characteristics</p> <p>2.4 Cut trial timber joints and check end profiles against specifications</p> <p>2.5 Join trial timber boards and test for strength and appearance</p> <p>2.6 Accept or reject trialled timber and dispose of waste according to environmental protection practices</p> <p>2.7 Resolve any machining problems and make final adjustments to equipment set-up according to workplace procedures and production requirements</p>
3. Start up and monitor end matching operation	<p>3.1 Start up end matching machine and process in conjunction with operators according to workplace procedures and manufacturer specifications</p> <p>3.2 Monitor end matching process and production output and quality</p> <p>3.3 Identify routine equipment and processing problems, and resolve or report to appropriate personnel according to workplace procedures</p> <p>3.4 Record and report production outcomes according to workplace</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	procedures
4. Coordinate machine shut-down and maintenance	<p>4.1 Coordinate end matching machine and equipment shut-down with operators according to workplace safety procedures</p> <p>4.2 Assist maintenance personnel to identify and resolve equipment faults</p> <p>4.3 Plan and coordinate routine maintenance of end matching machine and equipment according to workplace procedures and maintenance schedules</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Numeracy	<ul style="list-style-type: none"> Identifies quantities of required material to fill production orders Measures trialled material dimensions and profiles against specifications and appropriate tolerances Completes routine calculations to determine end matching schedules, considering labour and equipment resource capacity
Navigate the world of work	<ul style="list-style-type: none"> Understands main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> Uses modes of communication suitable to purpose to confirm and clarify understanding
Get the work done	<ul style="list-style-type: none"> Recognises and responds to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3275 Set up, operate	FWPCOT3209 Set up, operate and	Updated workplace health and safety requirements; renamed	Equivalent unit

and maintain end matching machines	maintain end matching operations	element 1; split element 2; revised performance evidence to map to performance criteria; updated unit code and title for clarity and compliance	
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Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3275 Set up, operate and maintain end matching machines

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has:

- followed work order and relevant workplace health and safety and environmental protection procedures
- prepared for end matching operations
- planned and communicated end matching schedule to operators:
 - timber cross-sections to be end matched
 - end matching profiles
 - finished product grades
 - quantities to be produced
 - changeover times
- set up end matching machine and equipment
- monitored end matching operation
- completed production records
- coordinated shut-down and maintenance of end matching machine and equipment.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- operational capacity of end matching machine and equipment
- typical workflow processes for end matching operations
- methods of determining end matching schedules to maximise equipment, labour and material use
- format, content and use of end matching schedules
- monitoring processes for end matching machines and overall production process
- typical processing and equipment faults and solutions for minimal production disruption

- range of industry standard cross-sections for end matched timber products, their strength, tolerances and applicable terminology
- purpose, features, operation and maintenance requirements of equipment used to produce end matched products, including:
 - guides
 - cutters
 - conveyors
- types of risk and hazards and mitigation measures associated with end matching operations
- workplace procedures specific to coordinating end matching operations:
 - workplace health and safety, with particular emphasis on equipment lock-out, use of personal protective equipment (PPE) and safe manual handling techniques
 - use of end matching machine and equipment
 - communication reporting lines for operator team members and self
 - documenting and communicating end matching schedules
 - recording and reporting production outcomes and maintenance schedules
- environmental protection practices for timber processing or manufacturing facilities:
 - reducing water and energy use
 - cleaning plant, tools and equipment
 - disposing of, recycling and reusing timber and other waste.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing or manufacturing facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - end matching equipment and associated repair and maintenance tools
 - computers, keyboards, printers and software to prepare end matching schedules and maintenance documents
 - PPE suitable for end matching operations
 - a diverse range of commercial timber
- specifications:
 - template documents for end matching schedules, production reports and maintenance reports
 - production orders with specific information about grades, quantities and cross-sections for specified end matched timber products
 - maintenance schedule for end matching equipment
 - workplace procedures for coordinating end matching operations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3276 Sharpen cutters using a straight knife grinder

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to sharpen cutters using a straight knife grinder.

The unit applies to individuals who sharpen cutters on a straight knife grinder for use on a moulder/planer to produce timber with simple profiles such as DAR (dressed all round) boards, either with a square edge or pencil round edge, or skip-dressed boards. Straight cutters are also used on veneer cutting machines and chippers.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for work	1.1 Review work order to determine job requirements and, where required, seek clarification from appropriate personnel 1.2 Review workplace health and safety procedures, including the use

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>of personal protective equipment, equipment lock-out and safe manual handling techniques</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with sharpening cutters using a straight knife grinder</p> <p>1.4 Identify workplace environmental protection procedures for minimising and disposing of waste material, cleaning tools and equipment, and maximising energy efficiency</p> <p>1.5 Consult with appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.6 Obtain tools, equipment and testing devices needed for the work and check for correct operation and safety</p>
2. Clean and check cutters before sharpening	<p>2.1 Clean cutters according to workplace procedures</p> <p>2.2 Check cutters for faults and take remedial action according to workplace procedures</p> <p>2.3 Match cutters in pairs for dimension, shape and weight, and mark according to workplace procedures</p>
3. Prepare grinder	<p>3.1 Clean grinder and work area according to workplace procedures</p> <p>3.2 Select grinding wheel and grinding speed according to workplace procedures</p> <p>3.3 Check grinding wheel for faults and take remedial action according to workplace procedures</p> <p>3.4 Fit grinding wheel and check grinder operation according to manufacturer and workplace procedures</p> <p>3.5 Check and dress grinding wheel according to manufacturer and workplace procedures</p>
4. Mount cutters and adjust grinder	<p>4.1 Set cutters in grinder according to manufacturer procedures</p> <p>4.2 Set grinding angle according to manufacturer and workplace procedures</p> <p>4.3 Adjust clearance between grinding wheel and cutters according to manufacturer specifications</p> <p>4.4 Set wheel advance according to manufacturer specifications</p> <p>4.5 Set traversing stops according to manufacturer specifications</p> <p>4.6 Check and top up coolant level according to manufacturer specifications</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
5. Sharpen cutters	<p>5.1 Clean and lubricate grinder as required, according to manufacturer specifications</p> <p>5.2 Select and fit correct grinding wheel and set angles according to manufacturer specifications</p> <p>5.3 Mount cutters for grinding according to manufacturer specifications</p> <p>5.4 Check operation of grinder for problems after the first pass according to workplace procedures</p> <p>5.5 Maintain coolant flow rate and cleanliness during wet grinding according to workplace procedures</p> <p>5.6 Sharpen cutter edges to the specified angle according to workplace procedures</p> <p>5.7 Ground cutter edges to a constant straight line according to workplace procedures</p> <p>5.8 Hone cutters and remove burrs according to workplace procedures</p> <p>5.9 Clean grinder after sharpening according to workplace procedures</p>
6. Check and store sharpened cutters	<p>6.1 Check cutter repairs and re-ground where required according to workplace procedures</p> <p>6.2 Set up balancing equipment according to manufacturer specifications</p> <p>6.3 Measure cutter weight and take remedial action when excess weight is detected according to workplace procedures</p> <p>6.4 Store cutters in matched pairs or sets according to workplace procedures</p> <p>6.5 Record and report work outcomes, equipment faults and maintenance requirements to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
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Skill	Description
Numeracy	<ul style="list-style-type: none"> Measures finished dimensions against specifications and allowable tolerances
Navigate the world of work	<ul style="list-style-type: none"> Understands main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> Uses modes of communication suitable to purpose to confirm and clarify understanding
Get the work done	<ul style="list-style-type: none"> Recognises and responds to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3276 Sharpen cutters using a straight knife grinder	FWPCOT3210 Sharpen cutting tools	The original unit has been replaced by three units, including this unit, to define specific skills required of operators for using different methods and equipment for sharpening different types of cutters to produce timber with simple and complex profiles	No equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3276 Sharpen cutters using a straight knife grinder

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has sharpened cutters using a straight knife grinder and has:

- followed work order and relevant workplace health and safety and environmental protection procedures
- cleaned and checked cutters prior to sharpening
- prepared the grinder
- mounted the cutters and adjusted the grinder
- checked and stored the sharpened cutters'
- completed workplace reports.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- purpose, features, operating parameters, components and operation of straight knife grinders used to sharpen cutters
- equipment used in setting up and running straight knife grinders
- types of cutters used to produce simple profiles
- types, effects and remedial action for dealing with cutters faults:
 - warp
 - cracks
 - chips
 - burns
 - delamination
 - raised spots
- types, effects and remedial action for dealing with grinding wheel faults:

- cracks
- clogging
- effects of incorrect set-up of coolant flow, traversing stops, traversing speed, wheel advance, grinding angle
- problems associated with operation of grinder:
 - burning
 - incorrect grinding angle
 - incorrect cutter set-up
- defects in cutter edges after sharpening:
 - burning
 - chipping
- procedures for:
 - checking and cleaning cutters prior to sharpening
 - preparing grinder
 - mounting cutters in grinder
 - sharpening cutters
 - storing cutters
- types and applications of simple profiles:
 - dressed all round (DAR) boards, either with a square edge or pencil round edge
 - skip-dressed boards
- types and effects of hazards and control measures associated with using grinders:
 - grinding wheel disintegration
 - loose grinding wheel
 - exposure to grinding coolant
- workplace procedures specific to using straight knife grinders:
 - workplace health and safety, with particular emphasis on equipment lock-out, isolation procedures, machine guarding and use of personal protective equipment (PPE)
 - communication reporting lines
 - recording and reporting production outcomes, equipment faults and maintenance requirements
 - environment protection legislation relating to sawmill operations.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing or manufacturing facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - straight knife grinder
 - cutters for simple profiles

- tools for setting up straight knife grinder
- PPE for sharpening cutters using a straight knife grinder
- cutters
- lubricant
- coolant
- specifications:
 - template documents for recording work outcomes, equipment faults and maintenance requirements
 - manufacturer instructions for sharpening cutters using a straight knife grinder
 - work order with specific instructions for sharpening cutters using a straight knife grinder
 - workplace procedures for sharpening cutters using a straight knife grinder.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3277 Sharpen cutters in head using a profile knife grinder

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to sharpen cutters in head using a profile knife grinder.

The unit applies to individuals who sharpen cutters in head on a profile knife grinder for use on a moulder in a timber processing facility to produce timber with complex profiles such as tongue and groove flooring, lining board, shiplap, joinery profiles and other detailed mouldings.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for work	1.1 Review work order to determine job requirements, including cutter profile type, dimensions and tooling information, and, where required,

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>seek clarification from appropriate personnel</p> <p>1.2 Review workplace health and safety procedures, including the use of personal protective equipment, equipment lock-out and safe manual handling techniques</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with sharpening cutters in head using a profile knife grinder</p> <p>1.4 Identify workplace environmental protection procedures for minimising and disposing of waste material, cleaning tools and equipment, and maximising energy efficiency</p> <p>1.5 Consult with appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.6 Obtain tools, equipment and testing devices needed for the work, and check for correct operation and safety</p> <p>1.7 Select template for profile knife grinder according to cutter profile requirements</p>
2. Clean and check cutter head before sharpening	<p>2.1 Clean cutter head according to workplace procedures</p> <p>2.2 Check cutters and cutter head for faults and take remedial action according to workplace procedures</p> <p>2.3 Check, adjust and position cutters and cutter head according to manufacturer specifications</p>
3. Prepare grinder	<p>3.1 Clean grinder and work area according to workplace procedures</p> <p>3.2 Select grinding wheel and grinding speed according to workplace procedures</p> <p>3.3 Check grinding wheel for faults and take remedial action according to workplace procedures</p> <p>3.4 Shape and dress grinding wheel according to manufacturer and workplace procedures</p> <p>3.5 Fit grinding wheel on its supporting arbor and check grinder operation according to manufacturer and workplace procedures</p> <p>3.6 Set grinding angle and automatic feed according to manufacturer and workplace procedures</p> <p>3.7 Check size and shape of the stylus for suitability for the cutter profile</p>
4. Mount and adjust	4.1 Lock cutter head to arbor according to manufacturer specifications

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
cutter head and template in the grinder	<p>4.2 Set dividing head and tool rest according to manufacturer specifications</p> <p>4.3 Mount template and adjust to cutters according to manufacturer specifications</p> <p>4.4 Adjust clearance between grinding wheel and cutters according to manufacturer specifications</p> <p>4.5 Check and top up coolant level according to manufacturer specifications</p>
5. Sharpen cutters in head	<p>5.1 Check operation of grinder for problems after the first pass</p> <p>5.2 Maintain coolant flow rate and cleanliness during wet grinding to prevent the cutter from burning</p> <p>5.3 Grind cutters until the specified edge and clearance angles are obtained across all cutters</p> <p>5.4 Grind cutters to conform to the template</p> <p>5.5 Sharpen cutter edges to specified angle, within permitted tolerances for concentricity and weight, and check that cutter is free from defects</p> <p>5.6 Hone cutters and remove burrs according to workplace procedures</p> <p>5.7 Clean grinder after sharpening according to workplace procedures</p>
6. Store cutter head	<p>6.1 Drain cutter head, if applicable</p> <p>6.2 Store cutter head according to workplace procedures</p> <p>6.3 Record and report work outcomes, equipment faults and maintenance requirements to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Numeracy	<ul style="list-style-type: none"> Measures finished dimensions against specifications and allowable tolerances

Skill	Description
Navigate the world of work	<ul style="list-style-type: none"> Understands main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> Uses modes of communication suitable to purpose to confirm and clarify understanding
Get the work done	<ul style="list-style-type: none"> Recognises and responds to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3277 Sharpen cutters in head using a profile knife grinder	FWPCOT3210 Sharpen cutting tools	The original unit has been replaced by three units, including this unit, to define specific skills required of operators for using different methods and equipment for sharpening different types of cutters to produce timber with simple and complex profiles	No equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3277 Sharpen cutters in head using a profile knife grinder

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has sharpened cutters in head using a profile knife grinder and has:

- followed work order and relevant workplace health and safety and environmental protection procedures
- selected template that met profile requirements
- cleaned and checked cutters and cutter head before sharpening
- prepared the grinder
- mounted and adjusted cutter head and template in the grinder
- stored cutter head after sharpening
- completed workplace reports.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- purpose, features, operating parameters, components and operation of profile knife grinders used to sharpen cutters in head
- equipment used in setting up and running profile knife grinders
- purpose of template and specifications
- components of cutter head
- types of cutters used to produce complex profiles
- types, effects and remedial action for dealing with cutter and cutter head faults:
 - warp
 - cracks
 - chips
 - burns

- delamination
- raised spots
- types of grinder wheels for sharpening various cutter profiles
- types, effects and remedial action for dealing with grinding wheel faults:
 - cracks
 - clogging
- effects of an incorrect set-up of coolant flow, traversing stops, traversing speed, wheel advance, grinding angle
- problems associated with the operation of grinder:
 - burning
 - incorrect grinding angle
 - incorrect cutter set-up
- defects in cutter edges after sharpening:
 - burning
 - chipping
 - grinding marks
- procedures for:
 - cleaning cutters and cutter head
 - preparing grinder
 - mounting and adjusting cutter head and template in the grinder
 - grinding and honing cutters in head
 - storing cutter head
- cutting angles for specific wood species and desired finish
- tolerances for concentricity and weight
- types and applications of complex profiles:
 - tongue and groove flooring
 - lining board
 - shiplap
 - joinery profiles and other detailed mouldings
- types and effects of hazards and control measure associated with using grinders:
 - grinding wheel disintegration
 - loose grinding wheel
 - exposure to grinding coolant
- workplace procedures specific to using profile knife grinders:
 - workplace health and safety, with particular emphasis on equipment lock-out, isolation procedures, machine guarding and use of personal protective equipment (PPE)
 - communication reporting lines
 - recording and reporting production outcomes, equipment faults and maintenance requirements
 - environment protection legislation relating to sawmill operations.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - profile knife grinder
 - cutters in head for complex profiles
 - tools for setting up profile knife grinder
 - PPE for sharpening cutters in head using a profile knife grinder
 - coolant
- specifications:
 - template documents for recording work outcomes, equipment faults and maintenance requirements
 - manufacturer instructions for sharpening cutters in head using a profile knife grinder
 - work order with specific instructions for sharpening cutters in head using a profile knife grinder
 - workplace procedures for sharpening cutters in head using a profile knife grinder.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3278 Sharpen cutters in head using a straight knife grinder

Modification History

Release	Comments
Release 2	This version released with FWP Forest and Wood Products Training Package Version 6.0.
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to sharpen cutters in head using a straight knife grinder.

The unit applies to individuals who sharpen cutters in head on a straight knife grinder for use on a moulder/planer to produce timber with simple profiles such as DAR (dressed all round) boards, either with a square edge or pencil round edge, or skip-dressed boards.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for work	<p>1.1 Review work order to determine job requirements and, where required, seek clarification from appropriate personnel</p> <p>1.2 Review workplace health and safety procedures, including the use of personal protective equipment, equipment lock-out and safe manual handling techniques</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with sharpening cutters in head using a straight knife grinder</p> <p>1.4 Identify workplace environmental protection procedures for minimising and disposing of waste material, cleaning tools and equipment, and maximising energy efficiency</p> <p>1.5 Consult with appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.6 Obtain tools, equipment and testing devices needed for the work, and check for correct operation and safety</p>
2. Clean and check cutter head before sharpening	<p>2.1 Clean cutter head according to workplace procedures</p> <p>2.2 Check cutter head for faults and take remedial action according to workplace procedures</p> <p>2.3 Check, and if required adjust, cutters for position in or on cutter head according to manufacturer specifications</p>
3. Prepare grinder	<p>3.1 Clean grinder and work area according to workplace procedures</p> <p>3.2 Select grinding wheel and grinding speed according to workplace procedures</p> <p>3.3 Check grinding wheel for faults and take remedial action according to workplace procedures</p> <p>3.4 Fit grinding wheel and check grinder operation according to manufacturer and workplace procedures</p> <p>3.5 Shape and dress grinding wheel according to manufacturer and workplace procedures</p> <p>3.6 Set grinding settings according to workplace requirements and manufacturer specifications</p>
4. Mount and adjust cutter head in the grinder	<p>4.1 Lock cutter head to arbor according to manufacturer specifications</p> <p>4.2 Set tool rest according to manufacturer specifications</p> <p>4.3 Set wheel advance according to manufacturer specifications</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>4.4 Set traversing stops according to manufacturer specifications</p> <p>4.5 Adjust clearance between grinding wheel and cutters according to manufacturer specifications</p> <p>4.6 Check and top up coolant level according to manufacturer specifications</p>
5. Sharpen cutters in head	<p>5.1 Check operation of grinder for problems after the first pass according to workplace procedures</p> <p>5.2 Maintain coolant flow rate and cleanliness during wet grinding according to workplace procedures</p> <p>5.3 Ground cutters until the specified edge and clearance angles are obtained across all cutters</p> <p>5.4 Ground cutter edges to a constant straight line</p> <p>5.5 Sharpen cutter to specified angle, within permitted tolerances for concentricity and weight, and check that cutter is free from defects</p> <p>5.6 Hone cutters and remove burrs according to workplace procedures</p> <p>5.7 Clean grinder after sharpening according to workplace procedures</p>
6. Store cutter head	<p>6.1 Drain cutter head, if applicable</p> <p>6.2 Store cutter head according to workplace procedures</p> <p>6.3 Record and report work outcomes, equipment faults and maintenance requirements to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Numeracy	<ul style="list-style-type: none"> Measures finished dimensions against specifications and allowable tolerances
Navigate the world of work	<ul style="list-style-type: none"> Understands main tasks, responsibilities and boundaries of own role

Skill	Description
Interact with others	<ul style="list-style-type: none"> Uses modes of communication suitable to purpose to confirm and clarify understanding
Get the work done	<ul style="list-style-type: none"> Recognises and responds to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3278 Sharpen cutters in head using a straight knife grinder Release 2	FWPCOT3278 Sharpen cutters in head using a straight knife grinder Release 1	Minor edit to Application	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3278 Sharpen cutters in head using a straight knife grinder

Modification History

Release	Comments
Release 2	This version released with FWP Forest and Wood Products Training Package Version 6.0.
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has sharpened cutters in head using a straight knife grinder and has:

- followed work order and relevant workplace health and safety and environmental protection procedures
- cleaned and checked cutter head prior to sharpening
- prepared the grinder
- mounted and adjusted cutter head in grinder
- stored cutter head after sharpening
- completed workplace reports.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- purpose, features, operating parameters, components and operation of straight knife grinders used to sharpen cutters in head
- equipment used in setting up and running straight knife grinders
- components of cutter head
- types of cutters used to produce simple profiles
- types, effects and remedial action for dealing with cutter and cutter head faults:
 - warp
 - cracks
 - chips

- burns
- delamination
- raised spots
- types, effects and remedial action for dealing with grinding wheel faults:
 - cracks
 - clogging
- effects of incorrect set-up of coolant flow, traversing stops, traversing speed, wheel advance, grinding angle
- problems associated with operation of grinder:
 - burning
 - incorrect grinding angle
 - incorrect cutter set-up
- defects in cutter edges after sharpening:
 - burning
 - chipping
 - grinding marks
- procedures for:
 - cleaning cutter head
 - preparing grinder
 - mounting and adjusting cutter head in grinder
 - grinding and honing cutters in-head
 - storing cutter head
- tolerances for concentricity and weight
- types and applications of simple profiles:
 - dressed all round (DAR) boards, either with a square edge or pencil round edge
 - skip-dressed boards
- types and effects of hazards and control measures associated with using grinders:
 - grinding wheel disintegration
 - loose grinding wheel
 - exposure to grinding coolant
- workplace procedures specific to using straight knife grinders:
 - workplace health and safety, with particular emphasis on equipment lock-out, isolation procedures, machine guarding and use of personal protective equipment (PPE)
 - communication reporting lines
 - recording and reporting production outcomes, equipment faults and maintenance requirements
 - environmental protection legislation relating to sawmill operations.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing or manufacturing facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - straight knife grinder
 - cutters in head for simple profiles
 - tools for setting up straight knife grinder
 - PPE for sharpening cutters in head using a straight knife grinder
 - cutters
 - lubricant
 - coolant
- specifications:
 - template documents for recording work outcomes, equipment faults and maintenance requirements
 - manufacturer instructions for sharpening cutters in head using a straight knife grinder
 - work order with specific instructions for sharpening cutters in head using a straight knife grinder
 - workplace procedures for sharpening cutters in head using a straight knife grinder.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3279 Assess and maintain saw technology tools

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to assess and maintain straight edges, hammers, measuring equipment, back gauges and tension gauges.

The unit applies to individuals who maintain saw technology tools in a timber products manufacturing facility.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for maintenance	<p>1.1 Review work order to determine job requirements and, where required, seek clarification from appropriate personnel</p> <p>1.2 Review workplace health and safety procedures, including the use of personal protective equipment, equipment lock-out and safe manual</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>handling techniques</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with maintaining saw technology tools</p> <p>1.4 Identify workplace environmental protection procedures for minimising and disposing of waste material, cleaning tools and equipment, and maximising energy efficiency</p> <p>1.5 Select appropriate repair and maintenance tools and equipment, and check for operational effectiveness</p> <p>1.6 Plan maintenance process according to work order</p>
2. Maintain straight edge	<p>2.1 Assess straight edge damage and wear and select appropriate maintenance method</p> <p>2.2 Determine correct work angle for resurfacing or removal of wear</p> <p>2.3 Clamp straight edge at correct angle to prevent movement, vibration and slippage during the resurfacing process</p> <p>2.4 Inspect abrasive wheel or cutting tool, clean or change as required to suit work material removal, tolerance and surface texture requirements</p> <p>2.5 Grind, machine or file straight edge to remove distortions and maintain edge straightness and flatness without overheating or causing distortion</p> <p>2.6 Remove all signs of wear or damage from reference surfaces</p> <p>2.7 Clean straight edge and de-bur edges</p> <p>2.8 Dispose of distorted straight edge according to environmental protection practices</p> <p>2.9 Record and report maintenance activities to appropriate personnel</p>
3. Maintain tension gauges	<p>3.1 Select grinder or other safe and appropriate method for maintaining tension gauges according to workplace procedures</p> <p>3.2 Set grinder to produce required radius or circle diameter for the tension gauge</p> <p>3.3 Position tension gauge and clamp in grinder securely, ensuring cord height is central to gauge length and arc is ground square to plane of the gauge body</p> <p>3.4 Inspect grinding wheel and dress and change to suit work, material and required tolerance</p> <p>3.5 Grind gauge to required accuracy and profile until all visible edge</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>and face wear is removed</p> <p>3.6 Select and monitor grinding speed and feed rates to avoid overheating, distortion and burn marks</p> <p>3.7 Dispose of tension gauges distorted during the process according to environmental protection practices</p> <p>3.8 Record and report maintenance activities to appropriate personnel</p>
4. Maintain measuring equipment	<p>4.1 Access information required for maintenance or measuring equipment from manufacturer manuals</p> <p>4.2 Check and calibrate measuring equipment against manufacturer specifications</p> <p>4.3 Tag and remove from service faulty measuring equipment according to workplace procedures</p> <p>4.4 Clean and store measuring equipment according to workplace and equipment manufacturer specifications</p> <p>4.5 Record and report maintenance activities to appropriate personnel</p>
5. Maintain hammers	<p>5.1 Clean hammers according to manufacturer instructions</p> <p>5.2 Assess condition of hammers according to workplace and manufacturer procedures</p> <p>5.3 Grind and resurface worn hammers</p> <p>5.4 Remove unserviceable hammers from service, and replace according to workplace procedures</p> <p>5.5 Record and report maintenance activities to appropriate personnel</p>
6. Maintain back gauges	<p>6.1 Maintain back gauges according to manufacturer instructions</p> <p>6.2 Tag and remove from service damaged or worn back gauges</p> <p>6.3 Clean and store back gauges according to workplace procedures</p> <p>6.4 Record and report maintenance activities to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extracts key information from operational manuals to determine safe operating procedures for equipment
Writing	<ul style="list-style-type: none"> Prepares routine written reports using required format, language and structure
Oral communication	<ul style="list-style-type: none"> Employs active listening and questioning to clarify content of work orders
Numeracy	<ul style="list-style-type: none"> Reads basic numeric setting on grinding wheels Estimates speeds to suit straight edge and tension gauge requirements Uses standard units of measurement for speed Interprets tension gauge markings
Navigate the world of work	<ul style="list-style-type: none"> Understands main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> Uses modes of communication suitable to purpose to confirm and clarify understanding
Get the work done	<ul style="list-style-type: none"> Recognises and responds to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3279 Assess and maintain saw technology tools	FWPCOT3211 Maintain sawdoctoring tools	Added new elements; redrafted performance evidence; expanded knowledge evidence and assessment conditions to include additional tools; changed title and unit code to reflect updates and for compliance	No equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3279 Assess and maintain saw technology tools

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has:

- assessed the condition of and maintained each of the following saw technology tools:
 - straight edges
 - hammers
 - measuring equipment
 - back gauges
 - tension gauges
- in doing the above job:
 - read and clarified a work order for assessing the condition and maintaining saw technology tools
 - followed work order and relevant workplace health and safety and environmental protection procedures
 - prepared for maintenance activities
 - maintained a straight edge
 - maintained a tension gauge
 - ground and resurfaced a hammer
 - maintained measuring equipment
 - maintained back gauge
 - completed workplace reports on maintenance activities.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- purpose, features and operation of tools and equipment used to maintain saw technology tools:
 - grinding machines
 - grinding machine attachments
 - abrasive grinding wheels
- types, purpose, features and use of:
 - straight edges
 - hammers including doghead, twist face, cross face, combination
 - measuring equipment including micrometers, vernier callipers, feeler gauge, pressure gauge, setting gauge
 - back gauges
 - tension gauges
- methods for:
 - assessing condition of straight edges and tension gauges
 - selecting appropriate grinding wheels
 - selecting and preparing appropriate straight edge/tension gauge material
 - maintaining straight edges, back gauges and tension gauges to specified requirements
 - maintaining measuring equipment
 - grinding and resurfacing hammers
- angles at which straight edges and tension gauges are ground
- range of speeds at which abrasive wheels can be operated without damaging materials being processed
- types of risk and hazards and mitigation measures associated with maintaining saw technology tools
- workplace procedures specific to maintaining saw technology tools:
 - workplace health and safety, with particular emphasis on equipment lock-out, use of personal protective equipment (PPE) and safe manual handling
 - communication reporting lines
 - recording and reporting processing problems and equipment faults
- environmental protection practices for repairing and maintaining saw technology tools:
 - reducing water and energy use
 - cleaning plant, tools and equipment
 - disposing of, recycling and reusing materials.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a saw technician workshop, a sawmill or an environment that accurately represents workplace conditions
- resources, equipment and materials:

- grinding machines
- grinding machine attachments
- abrasive grinding wheels with suitable characteristics
- hand files
- oil stones
- straight edges, back gauges, hammers, measuring equipment and tension gauges
- PPE suitable for repairing and maintaining saw technology tools
- specifications:
 - template documents for recording maintenance activities
 - manufacturer instructions for use, repair and maintenance of equipment
 - work order with specific instructions for maintaining saw technology tools
 - organisational procedures for maintaining saw technology tools.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3280 Replace saw blades, knives and guides

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to remove blunt or damaged saw blades, knives and guides from circular saws, band saws, chippers and canters, and install reconditioned cutting components.

The unit applies to individuals who replace saw blades, knives and guides in saws, chippers and canters in a timber processing or manufacturing facility.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for replacement	1.1 Review work order to determine job requirements and, where required, seek clarification from appropriate personnel 1.2 Review workplace health and safety procedures, including the use

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>of personal protective equipment, equipment lock-out and safe manual handling techniques</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with replacing saw blades, knives, and guides</p> <p>1.4 Identify workplace environmental protection procedures for minimising and disposing of waste material, cleaning tools and equipment, and maximising energy efficiency</p> <p>1.5 Select appropriate repair and maintenance tools and equipment, including lifting equipment if required, and check for operational effectiveness</p> <p>1.6 Select replacement saw blades, knives and guides according to manufacturer recommendations</p> <p>1.7 Transport saw blades, knives and guides for replacement to designated machines, using mechanical lifting aids as required</p>
2. Replace saws, blades and guides	<p>2.1 Lock out machine and equipment according to workplace procedures, and remove mechanical and safety components to provide access to saw blades, knives and guides without damaging components</p> <p>2.2 Store removed components temporarily in a safe location</p> <p>2.3 Remove and replace saw blades, knives and guides according to manufacturer recommendations</p> <p>2.4 Re-attach and secure mechanical and safety components according to manufacturer recommendations</p> <p>2.5 Check serviced machine and equipment for correct alignment, position and overall free operational performance</p> <p>2.6 Dispose of used saw blades, knives and guides according to environmental protection practices, or transfer for reconditioning</p> <p>2.7 Record and report processing problems and equipment faults to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Numeracy	<ul style="list-style-type: none"> Measures precise alignment of blades and guides to specification Uses standard units of measurement to determine the precise location of components of saws and cutting equipment
Navigate the world of work	<ul style="list-style-type: none"> Understands main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> Uses modes of communication suitable to purpose to confirm and clarify understanding
Get the work done	<ul style="list-style-type: none"> Recognises and responds to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3280 Replace saw blades, knives and guides	FWPCOT3212 Replace saws, blades and guides	Reworded application statement for clarity; updated unit code and title for clarity and compliance	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3280 Replace saw blades, knives and guides

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has:

- followed work order and relevant workplace health and safety and environmental protection procedures
- safely removed and replaced saw blades, knives and guides in one or more of the following types of saws and cutting machines:
 - circular saws
 - narrow or wide band saws
 - chippers
 - canters
- safely disposed of obsolete saw blades, knives and guides.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- purpose, features and operation of tools and equipment used to remove and replace saw blades, knives and guides in saws, chippers and canters:
 - spanners
 - wrenches and sockets
- mechanical lifting aids, including:
 - block and chain
 - pedestrian operated crane
 - pulley system
- methods for:
 - isolation of machine and equipment

- removing mechanical and safety components without damaging these
- removing saw blades, knives and guides from saws, chippers and canters
- installing and checking replacement saw blades, knives and guides for correct alignment and free operation
- re-inserting guides to carriers within allowable tolerances and adjusting clearances
- features and names of different parts of saw blades, knives and guides for:
 - circular saws
 - chippers
 - canters
 - narrow and wide band saws
- mechanical and safety equipment components and their positioning and tolerance specifications in relation to other components, including:
 - electrical motors
 - riving knives
 - access covers
 - saw guards
 - extraction equipment
- environmental protection practices in timber processing and manufacturing facilities
- types of risk and hazards and mitigation measures associated with replacing saw blades, knives and guides
- workplace procedures specific to replacing saw blades, knives and guides:
 - workplace health and safety, with particular emphasis on equipment lock-out, the use of personal protective equipment (PPE) and safe manual handling techniques
 - communication reporting lines
 - recording and reporting of processing problems and equipment faults.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing or manufacturing facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - one or more of the following types of saws and cutting machines for which saw blades, knives and guides are to be replaced: circular saws, chippers, canters, narrow and wide band saws
 - new or reconditioned saw blades, knives and guides for those machines
 - mechanical lifting aids
 - spanners, wrenches and sockets
 - PPE suitable for replacing saw blades, knives and guides
- specifications:

- template documents for recording processing problems and equipment faults
- manufacturer instructions for use, repair and maintenance of equipment
- work order with specific instructions for replacing saw blades, knives and guides in specified machine
- workplace procedures for replacing saw blades, knives and guides in saws, chippers and canters.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3281 Manufacture profile cutters

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to manufacture profile cutters by selecting appropriate material and machining blanks to specified profiles. Profile cutters are used in moulders and planers to produce profiled timber.

The unit applies to individuals who manufacture profile cutters in a saw technician workshop or sawmill facility.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to manufacture profile cutter	1.1 Review work order to determine job requirements and, where required, seek clarification from appropriate personnel 1.2 Review workplace health and safety requirements, including the use of personal protective equipment, equipment lock-out and safe

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>manual handling techniques</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with manufacturing profile cutters</p> <p>1.4 Identify environmental workplace procedures for minimising and disposing of waste material, cleaning tools and equipment, and maximising energy efficiency</p> <p>1.5 Obtain information about timber and equipment, and review to determine the preferred material type and profile cutter dimensions</p> <p>1.6 Select the required tools and equipment, and check for operational effectiveness</p> <p>1.7 Select material and cut to suitable lengths for machining profile cutter blank</p>
2. Machine blank	<p>2.1 Use equipment according to workplace safety procedures, manufacturer instructions and environmental protection practices</p> <p>2.2 Determine blank dimensions, industry standards and workplace tolerances according to work order</p> <p>2.3 Set up machining equipment according to manufacturer instructions</p> <p>2.4 Machine blank to the required dimensions and tolerances using selected processes</p> <p>2.5 Check blank surface finish and dimensions against specifications</p>
3. Machine required profiles	<p>3.1 Position blank in suitable attachments to machine tooth profiles</p> <p>3.2 Complete set-up and machine blanks to ensure each tooth profile and dimension meets required tolerances</p> <p>3.3 Check profile surface finish and dimensions against specifications regarding material to be cut, speed, direction and cutting angle</p> <p>3.4 Dispose of sub-standard profiled material according to workplace procedures and environmental protection practices</p> <p>3.5 Record and report production output, processing problems and equipment faults to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Numeracy	<ul style="list-style-type: none"> Completes precise calculations to machine and profile cutters to specified diameters, profiles, widths, lengths and angles within tolerances
Navigate the world of work	<ul style="list-style-type: none"> Understands main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> Uses modes of communication suitable to purpose to confirm and clarify understanding
Get the work done	<ul style="list-style-type: none"> Recognises and responds to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3281 Manufacture profile cutters	FWPCOT3213 Manufacture cutting tools	Updated application for clarity; reworded element 1; revised knowledge evidence; updated unit code and title for clarity and compliance	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3281 Manufacture profile cutters

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has manufactured at least three cutters with different profiles, and has:

- followed work order and relevant workplace health and safety and environmental protection procedures
- prepared to manufacture profile cutter
- machined blank to specification
- machined specified profiles
- checked profile surface finish and dimensions against specifications
- recorded and reported production output, processing problems and equipment faults.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- basic knowledge of physics of sawing, including:
 - saw blade material and properties
 - impact of timber properties on saw blades
 - direction of cut
 - forces on a blade
 - heat removal
 - sawtooth configuration
- features and operation of tools and equipment used to machine and profile blanks for profile cutters
- importance of manufacturing profile cutters to match requirements for:
 - characteristics of various materials sawn

- speed of the cutting process
- direction of the cutting process
- cutting angle
- profile cutter specifications
- methods for:
 - calculating profile cutter dimensions
 - machining and profiling blanks to the required profile
 - assessing surface finish and measuring the dimensions of the finished profile cutter against specifications and tolerances
- industry standard and organisational tolerances
- types of risk and hazards and mitigation measures associated with manufacturing profile cutters
- workplace procedures specific to manufacturing profile cutters:
 - workplace health and safety, with particular emphasis on equipment lock-out, use of personal protective equipment (PPE) and safe manual handling techniques
 - communication reporting lines
 - recording and reporting of processing problems and equipment faults
- environmental protection practices for timber processing and manufacturing facilities:
 - reducing water and energy use
 - cleaning plant, tools and equipment
 - disposing of, recycling and reusing materials.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a saw technician workshop, a sawmill or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - tools and equipment used to machine and profile blanks for profile cutters
 - measuring equipment including vernier callipers, micrometers and rules
 - blank stock for profile cutters
 - PPE suitable for manufacturing profile cutters
- specifications:
 - template documents for recording processing problems and equipment faults
 - manufacturer instructions for use, repair and maintenance of equipment
 - work order for machining activities with specific instructions for manufacturing profile cutters
 - workplace procedures for manufacturing profile cutters.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3282 Assess and maintain saw blade and sawing machine performance

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to assess and maintain the cutting performance of sawing blades or knives and sawing machines, including circular saws, band saws, chippers, canters and reducers.

The unit applies to individuals who assess and maintain the cutting performance of sawing machines and blades or knives in a timber sawmill environment.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for work	1.1 Review work order to determine job requirements and, where required, seek clarification from appropriate personnel

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.2 Review and implement workplace health and safety requirements, including the use of personal protective equipment, equipment lock-out and safe manual handling techniques</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with assessing and maintaining the cutting performance of sawing blades or knives</p> <p>1.4 Identify and implement workplace procedures for minimising and disposing of material and maximising energy efficiency</p>
2. Monitor and inspect sawing blades or knives and machine	<p>2.1 Obtain information relating to current and past performance problems and review to assess process problems</p> <p>2.2 Observe sawing machine and in-feed and out-feed equipment under operating conditions to determine the extent of problems</p> <p>2.3 Monitor condition and performance of sawing blades or knives to identify cutting problems according to workplace procedures</p> <p>2.4 Examine timber fed through sawing in-feed and out-feed equipment to determine potential causes of the cutting problem</p> <p>2.5 Apply problem-solving techniques to identify the causes of cutting problems and poor saw performance</p> <p>2.6 Lock out the machine and inspect parts to identify worn, broken and loose components</p>
3. Assess technical performance of sawing operation	<p>3.1 Compare technical performance of sawing operation against other comparable machine and blades</p> <p>3.2 Assess technical performance of sawing operation to identify future improvements and feasibility of options for new components</p> <p>3.3 Communicate the outcomes of technical assessment to appropriate personnel</p>
4. Rectify cutting problems	<p>4.1 Identify characteristics of cutting problems, and diagnose possible causes</p> <p>4.2 Refer to other trades and operations personnel to validate assessed causes</p> <p>4.3 Prepare solution responses, and discuss with relevant personnel to identify and agree on a preferred option</p> <p>4.4 Implement selected course of action, review cutting results and communicate to appropriate personnel</p> <p>4.5 Record and report causes of cutting problems and action taken</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Sources and extracts information from machine records, service history and log books to determine potential causes of cutting problems
Numeracy	<ul style="list-style-type: none"> Locates and interprets routine numerical data involving angles, dimensions and speeds from cutting performance records Uses formulae to calculate sawing efficiency
Navigate the world of work	<ul style="list-style-type: none"> Understands main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> Uses modes of communication suitable to purpose to confirm and clarify understanding
Get the work done	<ul style="list-style-type: none"> Recognises and responds to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3282 Assess and maintain saw blade and sawing machine performance	FWPCOT3216 Assess and maintain saw performance	Reworded application; revised performance criteria and evidence for mapping; renamed elements for clarity; updated unit code and title to reflect changes and for compliance	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3282 Assess and maintain saw blade and sawing machine performance

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has, on at least one occasion, assessed cutting performance of one or more of the following sawing machines and associated sawing blades or knives:

- band saw
- circular saw
- chipper
- canter
- reducer.

In doing the above, the individual has:

- followed work order and relevant workplace health and safety and environmental protection procedures
- monitored sawing operation and inspected sawing machine, in-feed and out-feed equipment and associated sawing blades or knives for identifying the types and the root cause of cutting problems
- assessed technical performance of sawing operation
- identified a safe course of action for rectifying the cutting problem
- reported on the cutting problem, fault diagnosis process and rectification outcomes.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- purpose, features and operation of sawing machines and associated blades or knives, including one or more of the following:
 - band saws and band saw blades
 - circular saws and circular saw blades

- chippers, canters, reducers and associated blades or knives
- typical sawing problems, causes and solutions:
 - cuts not straight or clean
 - excess heat
 - pitch marks in the job
 - diamond shapes and roughness in the cut
 - saw blades changed too regularly
- typical causes of damage and poor saw performance:
 - forcing timber through the in-feed equipment
 - hydraulic and electrical system not performing well
 - damage from foreign matter
 - incorrect operating speeds
 - oversized material removal
 - incorrect setting of in-feed and out-feed equipment
 - poor sharpening or setting of sawing blades or knives
- methods for:
 - assessing condition and performance of sawing blades or knives and machine
 - diagnosing causes of damage and poor performance
 - rectifying problems and improving cutting performance
- types of risk and hazards and mitigation measures associated with assessing and maintaining cutting performance
- workplace procedures specific to assessing and maintaining cutting performance:
 - workplace health and safety, with particular emphasis on machine lock-out, use of personal protective equipment (PPE) and safe manual handling techniques
 - communication reporting lines
 - recording and reporting cutting problems, the fault diagnosis process and rectification outcomes
 - disposal of material and other waste.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing or manufacturing facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - one or more of the following sawing machines and associated blades and knives: band saws, circular saws, chippers, canters, reducers
 - PPE suitable for assessing and maintaining saw performance
- specifications:
 - records of equipment fault and cutting performance

- template documents for recording and reporting cutting problems, the fault diagnosis process and rectification outcomes
- workplace procedures for assessing and maintaining sawing machine performance
- manufacturer instructions for use, repair and maintenance of sawing machine, including in-feed and out-feed equipment
- work order with specific instructions for assessing cutting performance of sawing machine and blades or knives.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3283 Sharpen and position blades or knives in chipper, canter and reducer

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to set up, sharpen and use either Babbitt or set screw processes for positioning straight and angled blades or knives in disc chippers, chipping heads, canters and reducers to process logs.

The unit applies to individuals who work as saw technicians to sharpen and position blades and knives in a timber processing facility.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for work	1.1 Review work order to determine job requirements and, where required, seek clarification from appropriate personnel

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.2 Review workplace health and safety procedures, including the use of personal protective equipment, equipment lock-out and safe manual handling techniques</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with sharpening and setting up blades and knives for chipper, canter or reducer</p> <p>1.4 Identify workplace environmental protection procedures for minimising and disposing of waste material, cleaning tools and equipment, and maximising energy efficiency</p> <p>1.5 Select appropriate grinding and Babbitt or set screw equipment and check for operational effectiveness</p>
2. Assess condition and set up the blade or knife assembly	<p>2.1 Set up chipper, canter or reducer blade or knife assembly according to workplace safety procedures and manufacturer recommendations</p> <p>2.2 Remove and replace blade or knife for sharpening from chipper, canter or reducer</p> <p>2.3 Assess cutting performance of blade or knife to determine sharpening requirements</p> <p>2.4 Assess condition of knife holder, jig and chuck, and correct defects</p> <p>2.5 Clean and secure knife holder to chuck according to workplace procedures</p> <p>2.6 Select jig type and setting for the required blade or knife set-up</p>
3. Set up grinding equipment	<p>3.1 Clean blades or knives of excess build-up, inspect Babbitts for defects and replace where unserviceable</p> <p>3.2 Set up grinding equipment for sharpening blades or knives according to workplace safety procedures and manufacturer recommendations</p> <p>3.3 Select angle for sharpening blade or knife to suit its use in the machine</p> <p>3.4 Set up the grinder with suitable ancillary equipment for holding knife or blade, and examine and dress grinding wheel</p> <p>3.5 Select grinding wheel speed and feeds to suit blade or knife, grinding wheel material and configuration</p>
4. Operate grinder to sharpen blades or knives	4.1 Operate grinder according to workplace safety procedures and manufacturer recommendations

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>4.2 Feed grinding wheel across and into cutting edge to sharpen blade or knife to geometric requirements without defects or burns</p> <p>4.3 Monitor grinder for operational effectiveness and apply coolant as required</p> <p>4.4 Inspect blade or knife after sharpening for accuracy, and hone remaining burrs to obtain sharp cutting edge</p> <p>4.5 Dispose of unserviceable and damaged blades or knives according to workplace procedures and environmental protection practices</p>
5. Apply Babbitt to blades or knives	<p>5.1 Apply Babbitt to blades or knives for chipper, canter or reducer according to workplace safety procedures</p> <p>5.2 Inspect Babbitt to assess reconditioning requirements</p> <p>5.3 Heat Babbitt material to required pouring temperature</p> <p>5.4 Set up blade or knife in pouring jig to required dimensions</p> <p>5.5 Pour Babbitt to minimise material waste and avoid cavities and shrinkage</p> <p>5.6 Cool assembly and remove excess material to allow correct positioning in the machine</p>
6. Adjust set screws on blades or knives	<p>6.1 Inspect set screws and replace bent or broken screws</p> <p>6.2 Adjust set screws to position knife or blade at the correct depth, and lock into position to avoid knife or blade movement</p> <p>6.3 Record and report processing problems and equipment faults to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Reads basic grinding wheel settings
Numeracy	<ul style="list-style-type: none"> Completes precise calculations involving measurement of angles Interprets machine scale to set grinding wheel down-feed for

Skill	Description
	appropriate stock removal rate
Navigate the world of work	<ul style="list-style-type: none"> Understands main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> Uses modes of communication suitable to purpose to confirm and clarify understanding
Get the work done	<ul style="list-style-type: none"> Recognises and responds to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3283 Sharpen and position blades or knives in chipper, canter and reducer	FWPCOT3233 Sharpen and align blades and knives	Split element 5; reworded elements; revised performance criteria, performance evidence, knowledge evidence and assessment conditions; updated unit code and title to reflect changes and for compliance	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3283 Sharpen and position blades or knives in chipper, canter and reducer

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has sharpened and set up blades or knives for one or more of the following timber sawing machines:

- chipper
- canter
- reducer.

In doing the above, the individual has:

- read and clarified work order to determine job requirements
- applied workplace health and safety requirements, including the use of personal protective equipment (PPE), equipment lock-out and safe manual handling techniques
- removed and replaced blade or knife for sharpening from the designated machine
- assessed blade or knife condition
- set up and operated grinder to sharpen blades or knives
- applied Babbitt process and set screw process for positioning blades or knives in the designated machine
- recorded and reported processing problems and equipment faults to appropriate personnel.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- purpose, features and operation of one of the following sawing machines for which blades and knives are sharpened:
 - chipper
 - canter
 - reducer

- fundamental blade or knife properties:
 - metal from which blades and knives are made
 - geometry
- features of a typical blade or knife defect:
 - burrs
 - burns
 - chips
 - splits
 - dents
- basic knowledge of physics of timber sawing:
 - blade or knife material and properties
 - impact of timber properties on blades or knives
 - direction of cut
 - forces on a blade or knife
 - heat removal
- purpose, features and operation of equipment used to sharpen and set up blades or knives:
 - grinding machines
 - grinding machine attachments
 - abrasive grinding wheels
 - Babbitt making equipment
 - set-screw equipment
- methods for:
 - removing blades or knives from machine
 - assessing blade or knife condition
 - selecting appropriate grinding wheels, diameter and material
 - cleaning blades or knives
 - sharpening blades or knives to specified requirements
 - reconditioning Babbitts and set screws
 - setting up blades or knives to specified requirements
- angles at which blades or knives are sharpened
- range of speeds at which abrasive wheels can be operated without damaging blades or knives
- coolants used in sharpening process, and impact on efficient sharpening
- types of risk and hazards and mitigation measures associated with sharpening and setting up blades and knives
- workplace procedures specific to sharpening and setting up blades and knives:
 - workplace health and safety, with particular emphasis on machine lock-out, the use of PPE and safe manual handling techniques
 - communication reporting lines
 - recording and reporting of processing problems and equipment faults

- environmental protection practices applicable to timber processing or manufacturing facilities.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing or manufacturing facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - grinding machines and ancillary equipment
 - abrasive grinding wheels in a variety of diameters and types
 - Babbitt making equipment
 - one or more of the following machines for which blades and knives are to be sharpened: chipper, canter, reducer
 - suitable blades or knives for sharpening
 - consumable coolant and set screws
 - PPE suitable for sharpening and aligning blades and knives
- specifications:
 - template documents for recording production output, processing problems and equipment faults
 - manufacturer instructions for use, repair and maintenance of equipment
 - work order with specific instructions for sharpening and aligning blades and knives in specified machines
 - workplace procedures for sharpening and aligning blades and knives.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3286 Identify levelling and tensioning requirements for saw blades

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to identify the levelling and tensioning requirements for circular, narrow and wide band saw blades that have been removed from the sawing machine.

The unit applies to individuals who identify levelling and tensioning requirements for saw blades used in sawmilling operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to identify levelling and tensioning	1.1 Review work order to determine job requirements and, where required, seek clarification from appropriate personnel

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
requirements	<p>1.2 Review workplace health and safety procedures, including the use of personal protective equipment, equipment lock-out and safe manual handling techniques</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with handling and inspecting saw blades</p> <p>1.4 Identify and implement workplace procedures for minimising waste material and maximising energy efficiency</p>
2. Inspect blade	<p>2.1 Handle saw blade to avoid damaging teeth</p> <p>2.2 Clear foreign material from saw blade surfaces for inspection</p> <p>2.3 Inspect saw blade and use correct terminology to identify defects</p> <p>2.4 Declare saw unserviceable where hazardous defects are found</p> <p>2.5 Segregate and dispose of unserviceable saws according to workplace procedures and environmental protection practices</p>
3. Determine levelling and tensioning requirements	<p>3.1 Identify levelling and tensioning requirements for the saw blade</p> <p>3.2 Identify method and tools and equipment required for levelling and tensioning saw blade</p> <p>3.3 Verify requirements and appropriate methods for levelling and tensioning with supervisor as required</p> <p>3.4 Record inspection results according to workplace requirements</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extracts essential information from standard reference manuals on levelling and tensioning saw blades
Writing	<ul style="list-style-type: none"> Prepares routine written reports using the required format, language and structure
Oral communication	<ul style="list-style-type: none"> Employs speaking, active listening and questioning skills to verify own recommendations related to levelling and tensioning requirements with supervisor

Skill	Description
Numeracy	<ul style="list-style-type: none"> • Uses numerical values to describe saw blade dimensions
Navigate the world of work	<ul style="list-style-type: none"> • Understands main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> • Uses modes of communication suitable to purpose to confirm and clarify understanding
Get the work done	<ul style="list-style-type: none"> • Recognises and responds to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3286 Identify levelling and tensioning requirements for saw blades	Not applicable	New unit	No equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3286 Identify levelling and tensioning requirements for saw blades

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has:

- inspected and determined the levelling and tensioning requirements for one or more of the following types of saw blades according to the work order:
 - circular
 - narrow band
 - wide band.
- In doing the above job, the individual has:
 - followed work order and relevant workplace health and safety and environmental protection procedures
 - identified, assessed and taken actions to mitigate risks and hazards associated with inspecting saw blades
 - used personal protective equipment (PPE) throughout the work
 - recorded inspection outcomes according to workplace requirements.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- characteristics of circular, narrow and wide band saw blades
- purpose of levelling and tensioning saw blades
- consequences of incorrect levelling and tensioning of saw blades
- frequency and timing of levelling and tensioning saw blades
- terminology related to levelling and tensioning saw blades:
 - lump
 - ridge

- twist
- dished
- loose
- fast
- tight/stiff
- tension
- saw blade tools and equipment used in levelling and tensioning saw blades
- importance of levelling blades, setting tension and applying curvature to match requirements for:
 - characteristics of various materials sawn
 - speed of the sawing process
 - direction of the sawing process
 - cutting angle for sawing
 - saw blade specifications
- methods for:
 - removing saw blades from circular saws
 - assessing saw blade condition
 - levelling and tensioning blades to specified requirements
 - applying curvature
 - checking saw blades after levelling and tensioning
- characteristics of metal used in circular saw blades, and range of force that can be applied without damaging blades
- saw blade defects:
 - lumps, ridges, and twists
 - areas of excessive tension
 - areas of insufficient tension
 - compressive and tensile stresses
- types of risk and hazards and mitigation measures associated with inspecting, levelling and tensioning saw blades
- workplace policies and procedures specific to levelling and tensioning circular saw blades:
 - workplace health and safety, with particular emphasis on equipment lock-out and use of PPE
 - communication reporting lines
 - recording and reporting of processing and equipment faults
- environmental protection practices for repairing and maintaining tools and equipment in forest products factory settings:
 - reducing water and energy use
 - cleaning plant, tools and equipment
 - disposing of, recycling and reusing materials.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest product factory setting or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - circular and band saw blades for inspection to determine levelling and tensioning requirements
 - PPE for inspecting, levelling and tensioning saw blades
- specifications:
 - template documents for recording levelling and tensioning requirements for saw blades
 - manufacturer instructions for levelling and tensioning saw blades
 - work order with specific instructions for inspecting and identifying the levelling and tensioning requirements of saw blades
 - workplace procedures for assessing the dimensional accuracy and surface quality of sawn timber products and determining the levelling and tensioning requirements of saw blades.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3287 Operate CNC equipment for grinding, tensioning and levelling saw blades

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to set up and operate computer numerical control (CNC) equipment for grinding, tensioning and levelling saw blades.

The unit applies to individuals who operate CNC equipment for grinding, levelling and tensioning saw blades in a saw technician workshop or sawmill for sawmilling operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for work	1.1 Review work order to determine job requirements and, where required, seek clarification from appropriate personnel

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.2 Review workplace health and safety requirements, including the use of personal protective equipment, equipment lock-out and safe manual handling techniques</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with operating CNC equipment</p> <p>1.4 Identify and implement workplace procedures for minimising waste material and maximising energy efficiency</p> <p>1.5 Obtain tools, equipment and measuring devices needed for the work according to established procedures, and check for correct operation and safety</p> <p>1.6 Select and inspect saw blades and determine suitability for machining</p>
2. Set up CNC equipment	<p>2.1 Set CNC program to job requirements</p> <p>2.2 Check safety equipment, including emergency stops, gauges, guards and controls</p> <p>2.3 Set and adjust equipment according to job requirements and manufacturer instructions</p> <p>2.4 Check CNC equipment, cutting tools and jigs for safe and effective operation</p> <p>2.5 Conduct trial runs to check equipment operation, test and prove CNC program and assess quality of finished work</p> <p>2.6 Make final adjustments to CNC programs and equipment according to workplace procedures</p>
3. Operate CNC equipment	<p>3.1 Operate and monitor equipment to ensure product quality and output</p> <p>3.2 Identify and report problems with the required work to appropriate personnel</p> <p>3.3 Reuse, recycle or dispose of items that do not meet quality requirements</p> <p>3.4 Comply with any authorised changes in working procedures</p>
4. Finalise operation and maintain equipment	<p>4.1 Clean work area and leave in a safe condition according to workplace procedures</p> <p>4.2 Perform routine maintenance according to workplace and manufacturer instructions</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	4.3 Tag and report faulty and/or defective equipment 4.4 Collect and store unused hardware according to workplace procedures 4.5 Dispose of waste and scrap materials according to workplace procedures 4.6 Check and replenish consumables 4.7 Record and report production outcomes, equipment faults and maintenance requirements to appropriate personnel

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extracts essential information from operational manuals to determine software parameters of CNC equipment
Writing	<ul style="list-style-type: none"> Prepares routine written reports using the required format, language and structure
Oral communication	<ul style="list-style-type: none"> Employs active listening and questioning to clarify content of work orders
Numeracy	<ul style="list-style-type: none"> Uses standard measures to record calibration outcomes Interprets graphical and statistical data used in calibration process
Navigate the world of work	<ul style="list-style-type: none"> Understands main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> Uses modes of communication suitable to purpose to confirm and clarify understanding
Get the work done	<ul style="list-style-type: none"> Recognises and responds to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3287 Operate CNC equipment for grinding, tensioning and levelling saw blades	Not applicable	New unit	No equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3287 Operate CNC equipment for grinding, tensioning and levelling saw blades

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has:

- operated computer numerical control (CNC) equipment to grind, tension and level saw blades.

In doing the above job, the individual has:

- followed work order and relevant workplace health and safety and environmental protection procedures
- identified, assessed and taken actions to mitigate risks and hazards associated with operating CNC equipment
- set, adjusted and tested CNC equipment
- performed routine maintenance of CNC equipment
- recorded and reported production outcomes, equipment faults and maintenance requirements.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- types, components, uses and limitations of CNC equipment used for grinding, tensioning and levelling saw blades
- reasons for using CNC equipment
- elements of a basic CNC program
- function of elements in controlling the operation of a CNC machine
- machining operations
- methods for setting CNC program
- workflow processes

- reasons for testing and proving the CNC program
- procedures for editing the CNC program via the machine controller
- effects of editing on the operation of the CNC equipment and the part or product to be produced
- measuring equipment/techniques used to check for conformance to specification
- types of risk and hazards and mitigation measures associated with CNC machines
- maintenance and housekeeping requirements of CNC machines
- safe work practices and procedures.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a saw technician workshop or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - CNC equipment for grinding, tensioning and levelling saw blades
 - hand tools, equipment and measuring devices required for use when using CNC equipment for grinding, tensioning and levelling saw blades
 - saw blades
 - personal protective equipment (PPE) for operating CNC equipment
- specifications:
 - template documents for recording production outcomes
 - manufacturer instructions for CNC equipment
 - work order with specific instructions for grinding, tensioning and levelling saw blades
 - workplace procedures for using CNC equipment to grind, tension and level saw blades.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3289 Load and prove operating program for CNC machine

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to load and prove a program for a computer numerical control (CNC) machine. This includes preparing for work, locating the CNC program file, checking the program for currency, loading the program correctly into the machine controller, checking for and dealing with fault/error messages, following proving/editing procedures and saving edited programs.

The unit applies to individuals who load and prove programs for CNC machines in a timber processing and manufacturing facility.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to load and	1.1 Review work order and, where required, seek clarification from

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
verify program for CNC machinery	<p>appropriate personnel</p> <p>1.2 Review workplace health and safety procedures, including the use of personal protective equipment, equipment lock-out and safe manual handling techniques</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with loading and proving CNC programs</p> <p>1.4 Identify workplace environmental protection procedures for minimising and disposing of waste material, cleaning tools and equipment, and maximising energy efficiency</p> <p>1.5 Use the correct control program and ensure it is correctly loaded into machine controller</p> <p>1.6 Call up the program and deal with any error messages or faults according to workplace procedures and manufacturer instructions</p> <p>1.7 Confirm program integrity according to workplace procedures</p>
2. Load program	<p>2.1 Carry out program loading and checking activities according to workplace procedures and manufacturer instructions</p> <p>2.2 Store program media away from contaminants or electromagnetic sources according to workplace procedures</p> <p>2.3 Return operating programs to correct location on completion of machining activities</p>
3. Prove program for CNC machinery	<p>3.1 Confirm that machine and program operate safely and correctly by applying appropriate checks and procedures according to machine type and manufacturer instructions</p> <p>3.2 Adjust machine and program operating parameters to optimise outcomes to be achieved</p> <p>3.3 Load and correctly set up all associated equipment</p> <p>3.4 Check that all safety mechanisms are in place and that the machine is set correctly for the required operations</p> <p>3.5 Respond to problems within scope of responsibility, or report problem to appropriate personnel</p> <p>3.6 Save and store edited programs according to workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extracts key information from workplace and reference documents on loading and proving programs for CNC machines
Writing	<ul style="list-style-type: none"> Prepares routine written reports that inform others on the outcomes of work activities
Oral communication	<ul style="list-style-type: none"> Uses speaking and listening skills to share information with other CNC machine operators about loading and proving programs for CNC machines
Numeracy	<ul style="list-style-type: none"> Takes machine readings to verify machines are operating correctly Applies numerical skills to describe tool datums, positions, lengths, offsets and radius compensation
Navigate the world of work	<ul style="list-style-type: none"> Understands main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> Uses modes of communication suitable to purpose to confirm and clarify understanding
Get the work done	<ul style="list-style-type: none"> Recognises and responds to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3289 Load and prove operating program for CNC machine	Not applicable	New unit	No equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3289 Load and prove operating program for CNC machine

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has loaded and proved the operating program for a computer numerical control (CNC) machine and has:

- followed work order and relevant workplace health and safety and environmental protection procedures
- selected the correct CNC program file for the job
- loaded the operating program
- proved the operating program
- checked that all safety mechanisms are in place and that the machine is set correctly for the required operations.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- purpose, features, operating parameters, components and operation CNC machines
- benefits of CNC machines
- type of products produced using CNC machines
- operational program software
- computing coding language used in the CNC programs being used
- function keys and operating system of the machine computer control system being operated
- procedures for accessing computer-controlled programs installed in the machine controller, including:
 - posting appropriate program to the machine
 - selecting tool specified by the program and for the material to be machined
 - selecting appropriate speeds and feeds

- hazards associated with loading and proving programs for CNC machines
- safety precautions to be taken when loading and proving operating programs for CNC machines
- methods for:
 - starting and stopping the machine in normal and emergency situations
 - handling and storing program files
 - loading, executing, editing and exiting operating programs
 - setting machine datums for each machine axis being used
 - identifying and dealing with error messages and faults on program or computer-controlled machine
 - placing the machine into correct operating mode and accessing program edit facility, in order to enter tooling data such as tool datums, positions, lengths, offsets and radius compensation
 - using tool posts, magazines and carousels and identifying the tools in relationship to the operating program
 - conducting trial runs, using single block run, dry run and feed and speed override controls
 - interpreting first and third angle drawings, metric measurements, workpiece reference points and system of tolerancing
 - checking before machine is operated in full program run mode
 - expressing machine tool and workpiece movements in terms of Cartesian coordinates
- purpose of tool compensation, including tool diameter, wear, nose radius, tool length
- industry standard profiles, lengths, cross-sections and tolerances and applicable terminology.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing or manufacturing facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - CNC machine
 - CNC operating program
 - personal protective equipment (PPE) for loading and proving operating programs for CNC machines
 - template documents for recording outcomes of setting up and calibration activities
- specifications:
 - manufacturer instructions for loading and proving program for CNC machine
 - work order with specific instructions for loading and proving program for CNC machine
 - workplace procedures for loading and proving program for CNC machine.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3290 Apply knowledge of timber properties, sawmill operations and sawmilling equipment

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to apply knowledge to identify the products, work processes and equipment in an operational sawmill. This includes identifying timber properties and defects and how these impact on sawing operations, timber volume and value recovery, process flow through a sawmill, quality requirements, the types, functions and capabilities of sawing machines and the regulatory arrangements that apply to sawmill operations.

The unit applies to individuals who work in various areas of sawmilling operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Identify timber	1.1 Identify species, grades and relative value of logs according to

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
properties and impact on sawmilling operations	<p>rules established by state forestry organisation, local forest owners or purchasing sawmill for a specific or intended end use</p> <p>1.2 Outline methods used for measurement of logs</p> <p>1.3 Identify timber properties and potential impact on sawing, timber volume and value recovery</p> <p>1.4 Describe timber features, properties and defects and potential impact on sawing, timber volume and value recovery</p>
2. Identify sawmill products and processes	<p>2.1 Identify processes involved in converting sawlogs to timber</p> <p>2.2 Describe process flow through sawmill</p> <p>2.3 Establish location of main processes in sawmill</p> <p>2.4 Identify type, grade, finish and value of sawn products and by-products</p>
3. Identify types, functions and capabilities of sawing machines	<p>3.1 Describe type, function and capability of sawing machines</p> <p>3.2 Distinguish between production (volume) sawing, grade (value) sawing, and combinations of both</p> <p>3.3 Distinguish between different types and functions of saw blades</p> <p>3.4 Assess impact of designed capability of sawing machines on timber volume and value recovery</p>
4. Identify quality requirements	<p>4.1 Assess impact of poor-quality sawn products on customers, profitability and compliance with industry standards</p> <p>4.2 Identify types, purpose and process for recording quality data</p> <p>4.3 Identify quality control processes</p>
5. Identify regulatory framework impacting on sawmilling operations	<p>5.1 Identify workplace health and safety legislation relating to sawmill operations and how this is reflected in workplace procedures</p> <p>5.2 Describe key features of environment protection legislation relating to sawmill operations and how this is reflected in workplace procedures</p> <p>5.3 Identify key features of industry codes of practice and how these are reflected in workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extracts key information from workplace documents on timber properties
Writing	<ul style="list-style-type: none"> Prepares sample quality reports using required format, language and structure
Numeracy	<ul style="list-style-type: none"> Reads graphical and statistical data used to monitor quality
Navigate the world of work	<ul style="list-style-type: none"> Understands main tasks, responsibilities and boundaries of own role
Get the work done	<ul style="list-style-type: none"> Recognises and responds to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3290 Apply knowledge of timber properties, sawmill operations and sawmilling equipment	Not applicable	New unit	No equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3290 Apply knowledge of timber properties, sawmill operations and sawmilling equipment

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has, on at least one occasion, identified the types and properties of timber, sawmilling products and processes and sawmilling equipment used in a sawmill and has:

- identified types, defects and properties of timber and their impact on sawing, timber volume and value recovery
- identified sawmill products and processes
- described types, functions and capabilities of sawing machines
- described key features of quality requirements
- identified the regulatory framework impacting on sawmilling operations.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- processes involved in conversion:
 - debarking
 - primary breakdown
 - secondary sawing
 - crosscutting
 - stacking
 - seasoning
 - residue removal
 - storage
- timber value and volume recovery:
 - definition

- ways of measuring
- species, grades and relative value of logs
- methods used for measurement of logs
- timber features and properties and potential impact on sawing, timber volume and value recovery
- timber defects and potential impact on sawing, timber volume and value recovery
- processes involved in converting sawlogs to timber
- process flow through sawmill
- location of main processes in sawmill
- type, grade, finish and value of sawn products and by-products
- type, function and capability of sawing machines
- production (volume) sawing
- grade (value) sawing
- types and functions of saw blades
- designed capability of sawing machines
- defects in timber due to conversion processes in sawmill
- types, purpose and process for recording quality data
- quality control processes
- workplace health and safety legislation relating to sawmill operations, including the use of personal protective equipment
- environmental protection legislation relating to sawmill operations
- industry codes of practice relating to sawmill operations.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest product factory setting or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - workplace documents that provide basic information on work practices, procedures, processes or equipment
 - workplace documents that provide basic information on quality control processes, workplace health and safety and environment protection procedures
 - reference materials on timber properties and defects and regulatory framework impacting on sawmilling operations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3291 Apply principles of timber and process optimisation in sawmill operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to apply optimisation principles in sawmilling operations to increase timber value and volume recovery. It includes identifying the drivers for optimisation, assessing opportunities for timber and workflow optimisation, identifying optimisation opportunities in own work area and participating in and evaluating optimisation initiatives.

The unit applies to individuals who are involved in timber and process optimisation in sawmilling operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Identify opportunities for optimisation in sawmilling operations	1.1 Identify drivers for optimisation in sawmilling operations 1.2 Identify potential impact of timber and material flow optimisation on timber value and volume recovery in sawmill operations 1.3 Assess opportunities for timber optimisation in sawmilling operations 1.4 Assess opportunities for material flow optimisation in sawmilling operations 1.5 Identify the technologies and work practices that are applied to enhance timber and workflow optimisation in sawmill operations
2. Identify optimisation opportunities in own work area	2.1 Compare current work practices, procedures, processes or equipment performance in own work area with requirements or performance indicators in relation to timber value and volume recovery 2.2 Recognise variances that indicate sub-optimal performance 2.3 Identify causes of sub-optimal performance and recommend corrective actions to relevant personnel
3. Participate in optimisation initiative	3.1 Participate in an approved optimisation initiative and monitor performance 3.2 Assess results of optimisation initiative 3.3 Record outcomes of actions and communicate to relevant personnel

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extracts key information from workplace documents on optimisation initiatives
Writing	<ul style="list-style-type: none"> Prepares routine written reports using required format, language and structure

Skill	Description
Oral communication	<ul style="list-style-type: none"> Employs active listening and questioning to clarify content of work orders
Numeracy	<ul style="list-style-type: none"> Interprets graphical and statistical data used to describe and show timber production, equipment performance and value recovery
Navigate the world of work	<ul style="list-style-type: none"> Understands main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> Uses modes of communication suitable to purpose to confirm and clarify understanding
Get the work done	<ul style="list-style-type: none"> Recognises and responds to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3291 Apply principles of timber and process optimisation in sawmill operations	Not applicable	New unit	No equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3291 Apply principles of timber and process optimisation in sawmill operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has, on at least one occasion, identified opportunities for timber and workflow optimisation in own work area and has:

- identified the drivers for optimisation
- distinguished between timber and workflow optimisation
- made recommendations to correct sub-optimal performance in own work area
- participated in one optimisation initiative.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- timber value and volume recovery:
 - definition
 - ways of measuring
- drivers for optimisation in sawmilling operations:
 - efficiency
 - productivity
 - quality
 - competitiveness
- distinction between timber and material flow optimisation
- measures to improve timber and material flow optimisation
- impact of timber and material flow optimisation on timber value and volume recovery in sawmill operations
- opportunities for timber optimisation in sawmilling operations in one or more of the following areas:

- log sorting
- sawing in the green mill
- dry mill processing
- grading
- timber treatment
- opportunities for material flow optimisation in sawmilling operations
- technologies applied to enhance timber and workflow optimisation in sawmill operations:
 - 3D, X-ray and acoustic scanning devices
 - automated transfer systems
 - computer-assisted machine centres for sawing and re-sawing
- work practices applied to enhance timber and workflow optimisation in sawmill operations.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest product factory setting or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - workplace documents that provide basic information on work practices, procedures, processes or equipment performance in own work area
 - workplace documents that provide basic information on requirements or performance indicators in relation to timber value and volume recovery
 - access to and opportunity to participate in a real or simulated optimisation initiative relevant to sawmilling operations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3292 Calibrate and maintain scanning equipment used in sawmilling operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to calibrate, adjust and test different forms of scanning equipment used in sawmilling operations, including optical (1–3 dimension), X-ray, microwave, multispectral and acoustic scanning equipment. It includes working safely, identifying the capability of scanning equipment in detecting timber characteristics and defects, following calibration procedures, and reporting on calibration outcomes.

The unit applies to individuals who calibrate different forms of scanning equipment used in sawmilling operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to calibrate scanning equipment	1.1 Review work order to determine job requirements and, where required, seek clarification from appropriate personnel 1.2 Review workplace health and safety procedures, including the use of personal protective equipment, equipment lock-out and safe manual handling techniques 1.3 Identify, assess and take actions to mitigate risks and hazards associated with working with scanning equipment 1.4 Identify and implement workplace procedures for minimising waste material and maximising energy efficiency 1.5 Obtain tools, equipment and testing devices needed for the work, and check for correct operation and safety
2. Calibrate scanning equipment	2.1 Identify capability and resolution of scanning equipment in detecting timber characteristics and defects 2.2 Identify calibration procedures and calibration points for scanning equipment 2.3 Identify and take into account factors that may impact on the accuracy of scanning equipment during the calibration process 2.4 Test and adjust scanning equipment as necessary to ensure equipment meets calibration requirements 2.5 Carry out calibration of scanning equipment efficiently without waste of materials or damage to apparatus, the surrounding environment or services, and using sustainable energy principles
3. Verify calibration outcome	3.1 Conduct a test for a benchmark object (the standard) to confirm accuracy and desired outcome from the process 3.2 Repeat calibration procedure if accuracy is not achieved 3.3 Record all calibration data accurately according to workplace and manufacturer requirements
4. Complete calibration activities	4.1 Document calibration status and report out-of-calibration scanning equipment 4.2 Lock out calibration scanning equipment according to workplace and safety requirements 4.3 Perform routine maintenance of scanning equipment according to workplace and manufacturer instructions 4.4 Clean work area according to workplace and safety requirements

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extracts key information from operational manuals to determine software parameters of scanning equipment
Writing	<ul style="list-style-type: none"> Prepares routine written reports using required format, language and structure
Oral communication	<ul style="list-style-type: none"> Employs active listening and questioning to clarify content of work orders
Numeracy	<ul style="list-style-type: none"> Uses standard measures to record calibration outcomes Interprets graphical and statistical data used in calibration process
Navigate the world of work	<ul style="list-style-type: none"> Understands main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> Uses modes of communication suitable to purpose to confirm and clarify understanding
Get the work done	<ul style="list-style-type: none"> Recognises and responds to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3292 Calibrate and maintain scanning equipment used in sawmilling operations	Not applicable	New unit	No equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3292 Calibrate and maintain scanning equipment used in sawmilling operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has, on at least one occasion, accurately calibrated scanning equipment used in sawmilling operations and has:

- followed work order and relevant workplace health and safety and environmental protection procedures
- reviewed work order to determine job requirements
- used personal protective equipment (PPE), lock-out procedures and safe manual handling techniques
- identified, assessed and taken actions to mitigate risks and hazards associated with working with scanning equipment
- calibrated one or more of the following types of scanning equipment:
 - optical (1–3 dimension)
 - X-ray
 - microwave
 - multispectral
 - acoustic
- tested the calibration accuracy
- performed routine maintenance of scanning equipment
- recorded all calibration data accurately according to workplace and manufacturer requirements.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- types of risk and hazards and mitigation measures associated with operating and calibrating scanning equipment

- types of scanning equipment:
 - optical (1–3 dimension)
 - X-ray
 - microwave
 - multispectral
 - acoustic
- methods for determining capability and resolution of different scanning equipment in detecting timber characteristics and defects, including:
 - thickness
 - shape
 - wane
 - knots
 - decay
 - foreign objects
 - heartwood
 - log stiffness
 - grain angle
 - colour check
 - stain
- calibration procedures and calibration points for scanning equipment
- function of key components of scanning equipment, operating principles, details of the pre-use, calibration and safety checks, and operating procedures for the items used
- factors that may impact on the accuracy of scanning equipment and their control
- role and importance of regular calibration checks and maintenance of equipment
- methods for testing calibration using a benchmark object (the standard)
- methods and frequency used to perform the checks and calibrations
- awareness of environmental sustainability issues as they relate to the work task
- legal, ethical and work health and safety requirements specific to the work task
- procedures for quarantining out-of-calibration equipment.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest product factory setting or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - scanning equipment used in sawmill operations including one or more of the following: optical (1–3 dimension), X-ray, microwave, multispectral, acoustic scanning equipment
 - tools, equipment and testing devices used in calibrating scanning equipment

- PPE for operating and calibrating scanning equipment
- specifications:
 - template documents for recording calibration outcomes
 - manufacturer instructions for calibration of scanning equipment
 - work order with specific instructions for calibration of scanning equipment
 - workplace procedures for calibration of scanning equipment.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3293 Use scanning equipment for timber grading

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to set up, test, operate and maintain different forms of scanning equipment for timber grading.

The unit applies to individuals who use scanning equipment for timber grading used in sawmilling operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to operate scanning equipment for timber grading	1.1 Review work order to determine job requirements and, where required, seek clarification from appropriate personnel 1.2 Review workplace health and safety procedures, including the use of personal protective equipment, equipment lock-out and safe manual

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>handling techniques</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with using scanning equipment for timber grading</p> <p>1.4 Identify workplace environmental protection procedures for minimising and disposing of waste material, cleaning tools and equipment, and maximising energy efficiency</p> <p>1.5 Consult with appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.6 Obtain type and quantity of timber for grading from a storage location</p>
2. Set up and test scanning equipment for timber grading	<p>2.1 Determine settings for scanning equipment according to work order and manufacturer instructions</p> <p>2.2 Identify relevant reference materials on the scanning equipment and use as required</p> <p>2.3 Identify the prerequisites for effective testing of scanning equipment</p> <p>2.4 Conduct test run to check the operation of scanning equipment and accuracy of grading outcomes</p> <p>2.5 Compare test results with actual data to confirm that scanning equipment is providing accurate grading outcomes</p> <p>2.6 Make adjustments to equipment settings as required</p> <p>2.7 Record all testing data accurately according to workplace and manufacturer requirements</p>
3. Operate, monitor and troubleshoot scanning equipment for timber grading	<p>3.1 Carry out equipment start-up procedures according to manufacturer instructions</p> <p>3.2 Operate equipment according to designed capacity and manufacturer recommendations</p> <p>3.3 Perform routine operational checks on the performance of the scanning equipment according to workplace, safety and manufacturer procedures</p> <p>3.4 Withdraw sample products for independent testing and comparison with grading determined by scanning equipment, investigate anomalies, identify root causes and implement solutions</p> <p>3.5 Identify problems with the operation of scanning equipment, and resolve or report to the appropriate person</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	3.6 Complete equipment shut-down procedures
4. Finalise operation and maintain equipment	4.1 Follow workplace safety procedures to lock out equipment 4.2 Perform routine maintenance according to workplace and manufacturer instructions 4.3 Record and report grading outcomes, equipment faults and maintenance outcomes to appropriate personnel

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extracts essential information from operational manuals to determine software parameters of scanning equipment
Writing	<ul style="list-style-type: none"> Prepares routine written reports using the required format, language and structure
Oral communication	<ul style="list-style-type: none"> Employs active listening and questioning to clarify content of work orders
Numeracy	<ul style="list-style-type: none"> Interprets graphical data related to grading process
Navigate the world of work	<ul style="list-style-type: none"> Understands main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> Uses modes of communication suitable to purpose to confirm and clarify understanding
Get the work done	<ul style="list-style-type: none"> Recognises and responds to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status

FWPCOT3293 Use scanning equipment for timber grading	Not applicable	New unit	No equivalent unit
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Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3293 Use scanning equipment for timber grading

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has:

- operated, monitored and troubleshoot scanning equipment for timber grading
- in doing the above job, the individual has:
 - followed work order and relevant workplace health and safety and environmental protection procedures
 - identified, assessed and taken actions to mitigate risks and hazards associated with operating scanning equipment
 - set up and tested scanning equipment
 - performed routine maintenance on scanning equipment
 - recorded grading outcomes according to workplace requirements.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- timber grading standards
- types of scanning equipment used for timber grading:
 - optical (1–3 dimension)
 - X-ray
 - microwave
 - multispectral
 - acoustic
- functions of key components of scanning equipment, operating principles, details of the pre-use, calibration and safety checks, and operating procedures for the items used
- factors that may impact on the accuracy of scanning equipment and their control

- methods used to:
 - set up and test scanning equipment
 - clean and maintain scanning equipment
- awareness of environmental sustainability issues as they relate to the work task
- types of risk and hazards and mitigation measures associated with operating scanning equipment for timber grading
- legal, ethical and work health and safety requirements specific to the work task
- typical flow of material supply in and out of the grading area
- range of industry standard strength grades and thresholds and applicable terminology
- markings used on timber boards to identify grades
- reason for independent testing of boards and processes for sampling and preparing boards for testing.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a sawmill or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - scanning equipment for timber grading including one or more of the following: optical, X-ray, microwave, multispectral, acoustic scanning equipment
 - personal protective equipment for operating scanning equipment for timber grading
 - a variety of timber for grading
- specifications:
 - template documents for recording grading outcomes
 - manufacturer instructions for scanning equipment
 - work order with specific instructions for using scanning equipment for timber grading
 - workplace procedures for grading timber using scanning equipment.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3294 Swage and shape saw blades

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to widen and press into shape through a cold forming process the cutting points of saw teeth to create a block that has the required hook, back, tangential and radial clearance angles for efficient saw operation.

The unit applies to individuals who swage and shape saw blades in a saw technician workshop or sawmill.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for work	1.1 Review work order to determine job requirements and, where required, seek clarification from appropriate personnel 1.2 Review environmental protection procedures and workplace health and safety requirements, including the use of personal protective

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>equipment, equipment lock-out and safe manual handling techniques</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with swaging and shaping saw blades</p> <p>1.4 Identify and implement workplace procedures for disposing of and minimising waste material, cleaning tools and equipment, and maximising energy efficiency</p> <p>1.5 Identify required swage shape and thickness from industry standards, existing saws and relevant records</p> <p>1.6 Select appropriate tools and equipment, and check for operational effectiveness</p> <p>1.7 Confirm that specifications for swaging and shaping saw blades match industry standards, workplace tolerances, requirements for materials to be sawn, speed, cutting angle and sawing process</p>
2. Set up equipment	<p>2.1 Set up swage and shaping equipment to meet production requirements</p> <p>2.2 Check die or swage clamp or vice shape against required shape, clearances and kerf, and change as required</p> <p>2.3 Secure saw blade in a swage clamp or vice or swager with teeth aligned to swager or vice shape</p> <p>2.4 Lubricate surfaces to be swaged</p>
3. Swage teeth	<p>3.1 Use equipment according to workplace safety procedures, manufacturer instructions and environmental protection practices</p> <p>3.2 Complete trial swage, check and adjust swaging setup</p> <p>3.3 Accept or reject trialled material and dispose of according to environmental protection practices</p> <p>3.4 Inspect swage shape and thickness, and measure for tangential and radial clearance and kerf</p> <p>3.5 Adjust swaging operation to meet production specifications</p> <p>3.6 Check dies for wear and adjust to ensure accurate operation</p> <p>3.7 Swage remaining teeth according to production and manufacturer specifications</p>
4. Shape teeth	<p>4.1 Remove excess material resulting from the swaging process</p> <p>4.2 Complete trial shape and check tooth tolerances, adjusting as required</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>4.3 Accept or reject trialled material and dispose of according to environmental protection practices</p> <p>4.4 Assess shape and check tooth alignment, adjusting remaining teeth as required</p> <p>4.5 Record and report processing problems and equipment faults to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extracts essential information from operational manuals to determine safe operating procedures for equipment
Writing	<ul style="list-style-type: none"> Prepares routine written reports using the required format, language and structure
Oral communication	<ul style="list-style-type: none"> Employs active listening and questioning to clarify content of work orders
Numeracy	<ul style="list-style-type: none"> Performs precise calculations to swage and shape saw blades to specified hook, back, tangential and radial clearance angles
Navigate the world of work	<ul style="list-style-type: none"> Understands main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> Uses modes of communication suitable to purpose to confirm and clarify understanding

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3294 Swage and shape	FWPCOT3215 Swage and shape	Updated environmental and workplace health and safety requirements; separated	Equivalent unit

saw blades	saw blades	performance criteria into a new element; updated foundation skills; updated performance evidence to map to performance criteria; updated unit code to reflect changes and meet compliance	
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Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3294 Swage and shape saw blades

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has:

- safely swaged and shaped saw blades for circular and band saws
- in doing the above job, the individual has:
 - followed work order and relevant workplace health and safety and environmental protection procedures
 - set up equipment
 - recorded and reported production outcomes.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- purpose, features and operation of circular and band saws for which saw blades are shaped and swaged
- features and names of different parts of circular and band saw blades
- purpose, features and operation of tools and equipment used to shape and swage blades:
 - swagers
 - swage clamps or vices
 - dies
 - measuring equipment
- importance of swaging and shaping saw blades to match requirements for:
 - characteristics of various materials sawn
 - speed of the sawing process
 - direction of the sawing process
 - cutting angle for sawing

- saw blade specifications
- techniques used to swage and shape saw teeth to specified hook, back, tangential and radial clearance angles
- industry standard and workplace tolerances
- types of risk and hazards and mitigation measures associated with swaging and shaping saw blades
- workplace procedures specific to swaging and shaping saw blades:
 - workplace health and safety, with particular emphasis on equipment lock-out, use of personal protective equipment (PPE) and safe manual handling
 - communication reporting lines
 - recording and reporting of processing problems and equipment faults
- environmental protection practices for repairing and maintaining tools and equipment in forest products factory settings:
 - reducing water and energy use
 - cleaning plant, tools and equipment
 - disposing of, recycling and reusing materials.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a saw technician workshop, a sawmill or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - swagers
 - swage clamps or vices
 - dies
 - wire gauges
 - test bars
 - rules
 - micrometers
 - vernier callipers
 - saw blades for circular saws and band saws
 - PPE suitable for swaging and shaping saw blades
- specifications:
 - template documents for recording production output, processing problems and equipment faults
 - manufacturer instructions for the use of equipment and recommended specifications for swaging and shaping teeth
 - work order with specific instructions for swaging and shaping saw blades for specified equipment

- workplace procedures for swaging and shaping saw blades.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3295 Assess and maintain cutter performance

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to assess and maintain cutter performance in timber moulding and planing operations. This activity includes inspecting dressed timber, diagnosing cutter performance and rectifying problems with cutters or knives.

The unit applies to individuals who assess and maintain cutter performance in a timber processing or manufacturing facility.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for work	1.1 Review workplace health and safety requirements, including use of personal protective equipment, equipment lock-out and safe manual handling techniques

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.2 Identify, assess and take actions to mitigate risks and hazards associated with assessing and maintaining the cutter and assembly components for moulding and planing machines</p> <p>1.3 Identify and implement environmental protection procedures for minimising and disposing of material, and maximising energy efficiency</p>
2. Inspect timber cutters and assembly components	<p>2.1 Obtain information relating to current and past performance problems and review to assess process problems</p> <p>2.2 Observe cutter, cutter block, spindles and associated assembly components under operating conditions to determine extent of problems</p> <p>2.3 Examine timber fed through the machine to determine potential causes of cutting problem</p> <p>2.4 Lock out machine and inspect cutters and assembly components to identify worn, broken and loose components</p>
3. Rectify problems with cutters and assembly components	<p>3.1 Diagnose possible causes with input from other personnel where required</p> <p>3.2 Discuss solutions with relevant personnel to identify and agree on preferred option</p> <p>3.3 Implement selected course of action, review dressing operation and results and communicate to appropriate personnel</p> <p>3.4 Record and report causes of problems and action taken according to workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Sources and extracts information from machine records, service history and log books to determine potential causes of cutting problems

Skill	Description
Oral communication	<ul style="list-style-type: none"> Employs active listening and questioning to clarify content of work orders
Numeracy	<ul style="list-style-type: none"> Locates and interprets routine numerical data involving angles, dimensions, and speeds in cutting performance records
Navigate the world of work	<ul style="list-style-type: none"> Understands main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> Uses modes of communication suitable to purpose to confirm and clarify understanding
Get the work done	<ul style="list-style-type: none"> Recognises and responds to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3295 Assess and maintain cutter performance	FWPCOT3217 Assess and maintain cutter performance	<p>Updated application; revised elements and performance criteria for clarity; revised list of relevant machines; reworded performance evidence</p> <p>Vocational outcomes have not changed</p>	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3295 Assess and maintain cutter performance

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has successfully assessed and diagnosed three different problems related to cutter and cutter blocks performance for moulders or planers.

In doing the above, the individual has:

- followed work order and relevant workplace health and safety and environmental protection procedures
- assessed performance of cutter and assembly components
- inspected timber and cutter and assembly components
- identified safe course of action for rectifying problem
- reported on problem, fault diagnosis process and rectification outcomes.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- purpose, features and operation of cutter, cutter block and assembly components on moulders and planers
- typical causes of damage and poor cutter performance:
 - forcing timber through the machine
 - damage from foreign matter
 - incorrect operating speeds
 - oversized material removal
 - incorrect setting of machine
 - poor sharpening or setting of cutters or knives
 - worn or damaged components
- methods for:

- assessing condition of cutters and assembly components
- diagnosing causes of damage and poor performance
- rectifying problems and improving cutter performance
- types of risk and hazards and mitigation measures associated with assessing and maintaining cutter performance
- workplace procedures specific to assessing and maintaining cutter performance:
 - workplace health and safety, with particular emphasis on equipment lock-out and use of personal protective equipment (PPE)
 - communication reporting lines
 - recording and reporting cutting problems
 - diagnosis process and rectification outcomes
 - disposing of material.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing or manufacturing facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - one or more of the following machines and associated cutters: moulder, planer
 - hand tools to carry out the work
 - PPE suitable for assessing and maintaining performance of cutters
- specifications:
 - records of equipment fault and cutting performance
 - template documents for recording and reporting cutting problems, the fault diagnosis process and rectification outcomes
 - workplace procedures for assessing and maintaining performance of cutters and associated equipment
 - manufacturer instructions for use, repair and maintenance of cutters and associated equipment.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3297 Operate automated stacking equipment

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to use automatic or semi-automatic stacking equipment to build, monitor, strap and record packs of timber products in preparation for despatch.

The unit applies to individuals who operate automatic timber stacking equipment in the forest and wood products industry.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for stacking	<p>1.1 Review work order to determine job requirements and, where required, seek clarification from appropriate personnel</p> <p>1.2 Review environmental protection procedures and workplace health and safety requirements, including the use of personal protective</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>equipment, equipment lock-out and safe manual handling techniques</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with operating automatic timber stacking equipment</p> <p>1.4 Identify and implement workplace procedures for minimising and disposing of waste material, cleaning tools and equipment, and maximising energy efficiency</p> <p>1.5 Select tools and equipment, and check for operational effectiveness</p> <p>1.6 Obtain type and quantity of timber products to be stacked from a storage location</p> <p>1.7 Plan stacking process according to work order</p>
2. Stack, wrap and strap packs	<p>2.1 Set up stacking machine to produce specified pack sizes according to work order</p> <p>2.2 Build packs using timber products of a consistent type, size and thickness</p> <p>2.3 Check bearers and protective strips for uniform thickness and damage</p> <p>2.4 Place specified bearers, spacing sticks and protective strips squarely, evenly and consistently</p> <p>2.5 Monitor stacked timber product for grade and quality</p> <p>2.6 Reprocess or dispose of unacceptable components</p> <p>2.7 Stack packs to correct product count or dimension, and check the safety of stacking</p> <p>2.8 Strap, wrap and label packs according to workplace procedures</p> <p>2.9 Avoid wastage of strapping and packaging materials, and maximise use of recycled materials</p>
3. Complete operator maintenance	<p>3.1 Lock out equipment according to workplace safety procedures</p> <p>3.2 Check, maintain and clean automatic stacking machine mechanism</p> <p>3.3 Keep machine area clear of dust and debris according to workplace safety procedures</p> <p>3.4 Record and report production outcomes and equipment faults to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extracts essential information from operational manuals to determine safe operating procedures for equipment
Writing	<ul style="list-style-type: none"> Prepares routine written reports using the required format, language and structure
Oral communication	<ul style="list-style-type: none"> Employs active listening and questioning to clarify the content of work orders
Numeracy	<ul style="list-style-type: none"> Counts numbers of timber products to be stacked, wrapped and packed Identifies quantities of timber products in work order Verifies quantities by re-counting components
Navigate the world of work	<ul style="list-style-type: none"> Understands main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> Uses modes of communication suitable to purpose to confirm and clarify understanding
Get the work done	<ul style="list-style-type: none"> Recognises and responds to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3297 Operate automated stacking equipment	FWPCOT3230 Operate automated stacking equipment	Updated workplace health and safety requirements to match across sections; updated foundation skills	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3297 Operate automated stacking equipment

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has operated automatic or semi-automatic stacking equipment and has:

- followed work order and relevant workplace health and safety and environmental protection procedures
- stacked and built packs of timber using an automatic or semi-automatic stacking machine according to an individual work order prescribing different types, dimensions and numbers of timber products to be packed
- completed the following tasks for each pack:
 - applied protective strips to packs
 - applied wrapping to packs to prevent water penetration during storage and transportation
 - strapped packs
 - labelled packs ready for storage or transportation
- completed operator maintenance on the automatic or semi-automatic stacking machine
- recorded and reported production outcomes and equipment faults to appropriate personnel.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- types of risk and hazards and mitigation measures associated with operating stacking equipment
- range of industry standard lengths, cross-sections, appearance grades, markings and applicable terminology for relevant timber products
- purpose, features and operation of automatic or semi-automatic stacking machines
- typical workflow processes used to build, wrap and strap packs automatically

- methods for labelling timber products and packs for identification
- quality requirements for packs
- workplace procedures specific to operating automatic stacking machines:
 - workplace health and safety, with particular emphasis on equipment lock-out, use of personal protective equipment (PPE), and safe manual handling
 - communication reporting lines
 - recording and reporting production outcomes and equipment faults
- environmental protection practices for stacking and binding material:
 - reducing water and energy use
 - cleaning plant, tools and equipment
 - disposing of, recycling and reusing timber and other waste.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing plant, a timber product manufacturing plant or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - automatic or semi-automatic stacking machines
 - PPE suitable for operating automatic stacking machines
 - commercial quantities of timber products to be stacked, wrapped and strapped
 - materials from which to build packs
 - consumable strapping, packaging and labelling materials
- specifications:
 - work order with specific instructions for automatically stacking material
 - template documents for recording production outcomes and equipment faults
 - workplace procedures for operating automatic stacking machines.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3298 Produce templates

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the outcomes required to produce templates that assist with the operation of static machines and computer numerically controlled (CNC) equipment used to produce shaped, tapered or moulded products.

The unit applies to individuals who produce templates for static CNC equipment used in a timber processing or manufacturing facility.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for work	1.1 Review work order to determine job requirements and, where required, seek clarification from appropriate personnel 1.2 Review workplace health and safety procedures, including the use of personal protective equipment, equipment lock-out and safe manual

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>handling techniques</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with producing templates</p> <p>1.4 Identify workplace environmental protection procedures for minimising and disposing of waste material, cleaning tools and equipment, and maximising energy efficiency</p>
2. Plan template production	<p>2.1 Identify type and quantity of required templates, and plan process in line with work order</p> <p>2.2 Select template material of appropriate size, strength and flexibility for equipment use</p> <p>2.3 Interpret drawings and specifications for templates and equipment application</p> <p>2.4 Measure and plot dimensions, maintaining correct angles, arcs and curves to produce pattern</p> <p>2.5 Check pattern dimensions, shape and measurements against drawings and specifications through visual inspection</p> <p>2.6 Select tools and equipment required for template production, and check for serviceability</p>
3. Produce templates	<p>3.1 Use equipment according to workplace safety procedures, manufacturer instructions and environmental protection practices</p> <p>3.2 Construct template using patterns to ensure accurate outcomes</p> <p>3.3 Position hardware so that it does not affect or obstruct equipment use</p> <p>3.4 Date and sign template patterns and make detailed notations for use</p> <p>3.5 Dispose of rejected templates and off-cuts according to workplace procedures and environmental protection practices</p> <p>3.6 Store plans according to workplace procedures</p> <p>3.7 Record and report production outcomes and equipment faults to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Numeracy	<ul style="list-style-type: none"> Extracts detailed numerical production data from work orders, drawings and specifications Counts quantities of materials and hardware components, and selects appropriate sizes Precisely measures and checks angles, arcs and curves against specifications
Navigate the world of work	<ul style="list-style-type: none"> Understands main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> Uses modes of communication suitable to purpose to confirm and clarify understanding
Get the work done	<ul style="list-style-type: none"> Recognises and responds to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3298 Produce templates	FWPCOT3237 Produce templates	Updated performance criteria to reflect environmental and workplace health and safety requirements; separated performance criteria into a new element and reworded the other elements; updated foundation skills; updated performance evidence to map to performance criteria; updated unit code to reflect changes and meet compliance	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3298 Produce templates

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has:

- produced templates according to the work order and product requirements
- in doing the above job, the individual has:
 - read and clarified work order for producing templates
 - applied workplace health and safety requirements, including use of personal protective equipment (PPE) and safe manual handling techniques, throughout the work
 - planned production of template
 - recorded and reported production outcomes and equipment faults to appropriate personnel.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- key features of patterns and templates and their purpose
- types and key features of equipment that are assisted by templates
- types and key features of shaped, tapered or moulded products produced with the assistance of templates
- characteristics of materials used for templates and how these affect template use:
 - strength
 - direction of grain
 - hardness
 - flexibility
- typical assembly sequences and range of techniques used to produce templates
- purpose, features and operation of equipment used to assemble templates
- purpose, features and use of assembly componentry
- types of risk and hazards and mitigation measures associated with producing templates

- workplace procedures specific to producing templates:
 - workplace health and safety, with particular emphasis on equipment lock-out, use of PPE and safe manual handling techniques
 - communication reporting lines
 - recording and reporting production outcomes and equipment faults
- environmental protection practices for producing templates:
 - reducing water and energy use
 - disposing of, recycling and reusing timber and other waste.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing or manufacturing facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - measuring equipment
 - patterns
 - assembly equipment
 - PPE suitable for use in producing templates
 - consumable metal and ply suitable for pattern preparation
 - consumable materials suitable for templates
 - consumable nails, screws and adhesives
- specifications:
 - template documents for recording production outcomes and equipment faults
 - manufacturer instructions for equipment use
 - work order, drawings and specifications for template production
 - workplace procedures for producing templates.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3299 Cut timber or engineered wood product to profile

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to use profiling equipment for cutting timber or engineered wood products to a profile to produce moulded products in a manufacturing facility.

The unit applies to individuals who work as benchman, machine operators, timber products technicians, production technicians and press operators.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for profiling timber or engineered wood products	1.1 Review work order to determine job requirements and, where required, seek clarification from appropriate personnel 1.2 Review workplace health and safety procedures, including the use of personal protective equipment, equipment lock-out and safe manual

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>handling techniques</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with cutting timber or engineered wood products to profile</p> <p>1.4 Identify workplace environmental protection procedures for minimising and disposing of waste material, cleaning tools and equipment, and maximising energy efficiency</p> <p>1.5 Obtain the type and quantity of material for profiling from a storage location</p> <p>1.6 Identify profile to be cut, and select appropriate cutting blades according to specifications</p>
2. Set up profiling equipment	<p>2.1 Use equipment according to workplace health and safety procedures, manufacturer instructions and environmental protection practices</p> <p>2.2 Follow lock-out procedures, select and attach machine guides and install cutting blades</p> <p>2.3 Set depth of cut or profile according to the required shape and to minimise waste</p> <p>2.4 Stack material in close proximity to maximise ease of machine feeding</p> <p>2.5 Test equipment set-up for correct profile alignment through a trial run, and adjust as required</p>
3. Cut timber or engineered wood product to profile	<p>3.1 Feed timber or engineered wood product into the machine at feed rate prescribed by organisational requirements</p> <p>3.2 Follow, maintain and adjust cutting sequence to produce the required quantity and maximise feed rate</p> <p>3.3 Check profiling process regularly and adjust to maintain desired depth and profile</p> <p>3.4 Dispose of incorrect cuts, off-cuts and defective material according to environmental protection practices</p> <p>3.5 Stack material safely in designated location according to work order</p>
4. Complete operator maintenance	<p>4.1 Lock out equipment according to workplace health and safety procedures and manufacturer recommendations</p> <p>4.2 Check cutting blades for bluntness or damage according to</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	manufacturer specifications 4.3 Remove and replace cutting blades according to manufacturer recommendations 4.4 Keep machine area clear of dust and debris according to workplace health and safety procedures 4.5 Record and report production outcomes, equipment faults and maintenance requirements to appropriate personnel

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Numeracy	<ul style="list-style-type: none"> Identifies quantities of required material within work orders, and counts numbers of panels to be profiled Completes basic calculations of required depth of cut or profile to determine equipment set-up Measures finished dimensions against specifications and allowable tolerances
Navigate the world of work	<ul style="list-style-type: none"> Understands main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> Uses modes of communication suitable for the purpose to confirm and clarify understanding
Get the work done	<ul style="list-style-type: none"> Recognises and responds to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status

FWPCOT3299 Cut timber or engineered wood product to profile	FWPCOT3265 Cut timber or engineered wood product to profile	Reworded performance evidence for clarity	Equivalent unit
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Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3299 Cut timber or engineered wood product to profile

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria of this unit.

There must be evidence that, on at least one occasion, the individual has:

- cut one or more of the following timber or engineered wood products to profile according to work order and prescribed workplace specifications:
 - dressed timber
 - in-the-rough timber
 - stress and non-stress graded timber
 - preservative treated timber
 - medium density fibreboard
 - laminated veneer
 - chipboard
 - fibreboard
 - coated and/or treated timber products
 - glued laminated timber (glulam)
 - cross-laminated timber (CLT)

In doing the above job, the individual has:

- followed relevant workplace health and safety and environmental protection procedures to complete the work order
- conducted operator maintenance on profiling equipment
- stacked batches of cut timber or engineered wood product safely.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- health and safety hazards or risks related to operating profiling equipment for timber or engineered wood products as identified through risk assessments, manufacturer technical information, regulations and industry health and safety guides
- workplace procedures specific to cutting timber or engineered wood product to profile:
 - health and safety, with particular emphasis on equipment lock-out and the use of personal protective equipment (PPE)
 - use of timber profiling equipment
 - communication reporting lines
 - recording and reporting production outcomes, equipment faults and maintenance requirements
- environmental protection practices for timber manufacturing facilities:
 - cleaning plant, tools and equipment
 - disposing of, recycling and reusing timber and other waste
 - reducing water and energy use
- characteristics of timber or relevant engineered wood product
- storage systems and labelling procedures, including:
 - storage racks
 - storage bays
 - bins
 - stacks
 - pallet boxes
 - modularised storage components
 - temporary stacking bays
- storage layout and categories for:
 - raw materials
 - stacking finished timber products
- typical timber or engineered wood product defects and how they affect the ability to produce quality profiled product:
 - warp
 - wane
 - cupping
 - shakes
 - insect defects
 - knots
 - resin pockets
- range of common profiles and applicable terminology, including:
 - quad
 - beading
 - mouldings
 - shaped beams
 - architraves

- skirting boards
- scotia
- common cutting patterns used to achieve common profiles
- range of feed rates and how they affect production output and quality of the finished product
- purpose, features and operation of equipment used to cut timber or engineered wood product to profile:
 - measuring equipment
 - multi-head planing machines (four siders)
 - spindle moulders
 - routing machines
 - shaping machines
 - machine guides
- methods for assessing cutting blade condition.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - measuring equipment
 - profiling equipment including one or more of the following: multi-head planing machines (four siders), spindle moulders, routing machines, shaping machines
 - machine guides
 - maintenance tools and equipment for removing and replacing cutting blades
 - consumable profile cutting blades in various shapes and sizes
 - PPE suitable for cutting material to profile
 - timber or engineered wood product suitable for profiling operations
- specifications:
 - manufacturer instructions for use and maintenance of equipment
 - work order with specific instructions for cutting timber or engineered wood product to profile
 - workplace policies and procedures for cutting timber or engineered wood product to profile, including health and safety and emergency procedures and environmental protection procedures
 - template documents for recording production outcomes, equipment faults and maintenance requirements.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3301 Trim trees using a pole saw

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to use a fuel or battery powered pole saw to trim tree branches within safe height and angle limits.

The unit applies to individuals who operate pole saws to trim tree branches as part of arboriculture, forestry, agriculture, conservation and land management, local government, emergency services and other government agency operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for trimming	1.1 Determine job requirements from work order or instruction and, where required, seek clarification from appropriate personnel 1.2 Confirm safety and environmental requirements for the task

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>according to workplace procedures</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with using pole saw to trim branches</p> <p>1.4 Plan trimming activities according to workplace procedures</p> <p>1.5 Consult with team members and other appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.6 Obtain pole saw and other support equipment needed for the work</p> <p>1.7 Select, fit and use personal protective equipment</p> <p>1.8 Conduct pre-start-up checks of pole saw to determine serviceability according to manufacturer instructions</p>
2. Assess trees	<p>2.1 Identify and assess tree type, location and stability for safe working conditions</p> <p>2.2 Plan trim of tree according to workplace procedures and environmental conditions</p> <p>2.3 Identify trees unsafe to be trimmed, and refer to supervisor</p> <p>2.4 Identify hazards in immediate vicinity of the tree to be trimmed, and refer to supervisor</p> <p>2.5 Determine whether the height of branches to be trimmed is within safe reach and safe working angle when using the pole saw</p> <p>2.6 Establish general falling direction of branches to be trimmed, and identify clear escape routes</p>
3. Trim trees	<p>3.1 Trim accessible branches within safe height and angle limits according to work order or instructions and manufacturer recommendations</p> <p>3.2 Monitor location and movement of people in work area to ensure work site is safe</p> <p>3.3 Undertake sequence of cuts to trim tree branches</p> <p>3.4 Operate pole saw according to workplace procedures and manufacturer instructions, adjusting technique in response to condition of the tree</p> <p>3.5 Identify unexpected tree characteristics during trimming operations, and review tree assessment if required</p> <p>3.6 Complete cutting once initiated to minimise splitting</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	3.7 Clear cut branches from the site according to workplace procedures and environmental requirements
4. Conduct operator maintenance	4.1 Follow workplace safety procedures and manufacturer instructions to lock out equipment 4.2 Inspect condition of pole saw and other equipment on completion of trimming activities 4.3 Clear pole saw of dust, shavings and debris, and check for serviceability 4.4 Remove, sharpen, adjust or replace chain and other components according to manufacturer recommendations 4.5 Recycle, re-use or dispose of blunt or damaged chain and other components according to workplace procedures and environmental requirements 4.6 Record and report equipment faults and maintenance activity

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret workplace documentation to determine requirements
Writing	<ul style="list-style-type: none"> Use technical and workplace specific vocabulary to accurately and legibly complete workplace records and forms
Oral communication	<ul style="list-style-type: none"> Ask questions and actively listen to clarify contents of work plans

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3301 Trim	FWPCOT3238	Retitled	Equivalent

Code and title current version	Code and title previous version	Comments	Equivalence status
trees using a pole saw	Operate a pole saw	Minor updates to Application, Performance Criteria and Knowledge Evidence Added new Performance Criteria Updated Foundation Skills, Performance Evidence and Assessment Conditions	

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3301 Trim trees using a pole saw

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has:

- assessed, planned and conducted the trimming of the accessible branches of six trees within safe height and angle limits using a pole saw
- followed workplace policies and procedures, current workplace health and safety legislation, regulations and related industry standards and codes of practice in completing the tree trimming work
- inspected and carried out routine operator maintenance on one pole saw on one occasion, including removing, sharpening, replacing and adjusting the chain, according to manufacturer requirements.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- types and components of pole saws
- uses of pole saws to trim trees
- procedures for pole saw operations
- risks and hazards associated with trimming trees with a pole saw
- characteristics of trees and timber defects
- trimming sequence and pole saw cutting techniques for trimming trees
- safe height and angle limits for pole saw use when trimming trees
- criteria for assessing condition of pole saw chain
- procedures for removing, sharpening, adjusting or replacing pole saw chain and other components
- established communication channels and protocols for trimming trees with a pole saw
- problem identification and resolution strategies related to trimming trees with a pole saw

- procedures for recording and reporting workplace information related to trimming trees with a pole saw.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in the workplace or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - an industry standard fuel or battery powered pole saw
 - tools and equipment used to maintain pole saws
 - consumable pole saw parts, oil and fuel
 - personal protective equipment required in pole saw operations
- specifications:
 - access to workplace safety and environmental policies and procedures applicable to use of pole saws for trimming branches
 - access to workplace procedures and forms for recording pole saw maintenance and faults
 - access to workplace standard operating procedures or operator manual for pole saws.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3302 Access and provide timber and wood product information

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to apply wood and timber product knowledge in the workplace and promote the benefits of wood and timber products to a range of customers and others. The unit includes identifying wood and timber products, accessing accurate information on wood and timber products, and providing information to customers and others about those products.

The unit applies to individuals who work as customer service/sales assistants and sales and team leaders and are responsible for providing advice on timber and wood products.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Identify types, characteristics and certification arrangements for wood	1.1 Identify physical and mechanical properties of wood and timber that affect wood and timber quality 1.2 Identify the names, types, uses and qualities of domestically

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
and timber products	sourced and imported wood and timber products 1.3 Identify the responsible agency, purpose and legal status of forest, wood and timber product certification, labelling and chain of custody schemes
2. Access information on wood and timber products	2.1 Identify sales or operational need for wood and timber product information 2.2 Identify and use a range of methods to access sources of wood and timber product information 2.3 Assess sources of wood and timber product information 2.4 Source specific product information to meet sales or operational need
3. Advise on wood and timber products	3.1 Promote characteristics and benefits of wood and timber products using correct industry terminology to customers and others 3.2 Respond to enquiries from customers and others using correct industry terminology about wood and timber products 3.3 Provide advice to customers and others on the suitability of wood and timber products for specific end uses 3.4 Provide advice to customers and others on common wood and timber treatment methods, preservatives and exposure hazards 3.5 Provide advice to customers and others on timber coatings and finishes for specific end uses
4. Maintain wood and timber product knowledge	4.1 Obtain information to update own knowledge of wood and timber products on an ongoing basis 4.2 Source and access information on current and emerging wood and timber product developments 4.3 Share new or updated wood and timber product information with colleagues

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret workplace documentation to determine requirements Research, sort and interpret diverse wood and timber product information
Writing	<ul style="list-style-type: none"> Prepare notes and basic summaries of information
Oral communication	<ul style="list-style-type: none"> Question suppliers about wood and timber product details
Numeracy	<ul style="list-style-type: none"> Interpret diverse numerical and graphical information on wood and timber product characteristics Interpret volume and ratio data related to the use of wood and timber treatments, coatings and finishes

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3302 Access and provide timber and wood product information	FWPCOT2241 Apply wood and timber product knowledge	Title amended Clarified Application Reworded Elements and Performance Criteria Updated Knowledge Evidence, Foundation Skills, Performance Evidence and Assessment Conditions	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3302 Access and provide timber and wood product information

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has:

- researched and provided wood and timber product information in response to three different sales-related and/or operations-related enquiries
- used at least two of the following sources to access wood and timber product information for each of the above enquiries:
 - internet or intranet
 - supplier of the product
 - product library
 - product catalogue
 - trade and technical publications
 - tradespeople or timber industry professionals
 - social media websites
 - state and federal government information systems
- used correct industry terminology and common abbreviations in response to each of the above enquiries for product information
- shared product information with colleagues gained in responding to each of the above enquiries for product information.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- distinction between wood and timber
- distinction between softwood and hardwood
- names, types, uses and qualities of domestically sourced and imported wood and timber products, including products made from recycled wood

- suitable species and product types for wood and timber applications
- physical and mechanical properties of wood and timber
- criteria for determining wood and timber quality
- origin, name, appearance, properties, defects and uses of common timber species, including:
 - durability
 - density
 - sawing orientation
 - strength group
 - shrinkage
 - joint strength
 - lyctus susceptibility
 - fire rating
 - hardness
- methods, preservatives and exposure hazards relating to manufactured timber: engineered products, laminated veneer lumber (LVL), medium density fibreboard (MDF), plywood, and particle board
- manufacturer product literature covering features and benefits of wood and timber products, including:
 - carbon storage
 - low embodied energy
 - renewability
 - reuse
 - sustainability of the forest resources
 - new applications and services over alternative materials and products
- certification, labelling and chain of custody schemes and their purpose in the forestry industry
- timber grades and their uses for client applications
- procedures for matching timber coatings and finishes to specific end uses
- wood preservatives and associated safety data sheets
- techniques for maintaining wood and timber product knowledge
- procedures for recording and reporting information provided to customers.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a workplace location or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - the internet

- digital device to access wood and timber product information
- industry sources of product information
- specifications:
 - access to work order or instruction detailing activities to be carried out by operator
 - access to documentation related to workplace health and safety, environmental, design and chain of custody of wood and timber products
 - access to workplace procedures and forms for providing advice and reporting/ keeping reports.
- relationships:
 - customers and colleagues with whom the individual can interact; these can be customers and colleagues in an industry workplace who are assisted by the individual during the assessment process; or individuals who participate in role plays or simulated activities, set up for the purpose of assessment, in a simulated industry environment operated within a training organisation.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3303 Prepare sketches and drawings

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to identify drawing conventions, structure design details and dimensions from construction plans and apply that information to prepare sketches and drawings that inform the fabrication plans.

The unit applies to timber advisors, customer service officers and timber frame and truss fabricators who would normally take responsibility for organising and completing tasks assigned to them without close supervision.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan the work	1.1 Identify workplace policies and procedures relevant to preparing sketches and drawings and confirm job requirements from work order or instruction 1.2 Source relevant information and measurements from construction plans or on-site measurements 1.3 Identify areas of insufficient detail or inconsistency and seek

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>clarification from appropriate person</p> <p>1.4 Check details, dimensions, material type and design for accuracy according to workplace procedures</p> <p>1.5 Determine sketch or drawing type suitable to represent and clearly communicate design</p>
2. Confirm information	<p>2.1 Identify conventions and features to prepare a two-dimensional or three-dimensional sketch or drawing</p> <p>2.2 Collate information and check interrelationship with construction plans</p> <p>2.3 Confirm design details with relevant person according to work order or instruction</p>
3. Prepare sketches and drawings	<p>3.1 Select and set up appropriate drawing equipment according to workplace procedures</p> <p>3.2 Sketch design and include components, assembly methods and necessary accessories</p> <p>3.3 Select drawing views to present required information with minimal drawing complexity</p> <p>3.4 Prepare clear and accurate sketches and drawings according to work order or job specifications, workplace procedures and industry standards</p> <p>3.5 Incorporate explanatory notes within sketches and drawings</p> <p>3.6 Finalise and save sketches and drawings, and provide to appropriate person according to workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Numeracy	<ul style="list-style-type: none"> Distinguish measurements and reference dimensions from construction plans Apply measurements to scale during the preparation of sketches

Skill	Description
	and drawings

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3303 Prepare sketches and drawings	FWPCOT3204 Prepare and interpret sketches and drawings	Retitled Application updated Elements reworded Performance Criteria re-sequenced Assessment Requirements rewritten to specify volume of Performance Evidence Knowledge Evidence updated	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3303 Prepare sketches and drawings

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has prepared sketches and drawings for two different timber projects from the list below:

- timber floor truss
- timber wall frame, or
- timber roof truss.

One project must be a 2-dimensional and one must be a 3-dimensional drawing.

For each project there must be evidence that the individual has:

- interpreted structural details, design and measurements from construction plans
- applied drawing conventions to the sketches and drawings, and followed relevant workplace policies and procedures for producing, retaining and supplying sketches and drawings
- prepared sketches and drawings that clearly represent intended design of project.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- types of sketches and drawings used in timber frame and truss production:
 - isometric
 - orthographic
 - oblique
 - perspective
- drawing conventions and meaning:
 - title block
 - symbols and abbreviations

- line types
- dimension lines
- hatching
- scale
- details
- ways of incorporating features in sketches and drawings:
 - base lines
 - datum points
 - views and projections
 - details
 - dimensions and tolerances
 - instructions and notes
 - product and production symbols
- workplace policies and procedures related to producing, saving and supplying sketches and drawings
- drawing terminology
- methods of preparing, retaining and supplying sketches and drawings:
 - manual
 - electronic.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber systems design workplace or a simulated environment that accurately represents workplace conditions
- resources, equipment and materials:
 - manual or electronic drawing equipment and drawing materials
- specifications:
 - access to construction plans and specifications to inform sketches and drawings
 - access to work order or instruction detailing required projects for drawing.
- relationships:
 - person(s) to seek clarification from or confirm design details.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3304 Take off material quantities

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the knowledge and skills required to take off material quantities and estimate costs from completed designs and specifications. It involves itemising materials and detailing material sizes and quantities for the purpose of pricing.

The unit applies to designers (timber truss and frame), production fabricators (timber truss and frame) and timber manufactured products technicians who take responsibility for organising and completing these tasks with a high degree of self-direction.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Identify materials and prepare to take off	1.1 Determine job requirements from work order, and where required, confirm with appropriate person 1.2 Identify specified materials from production plan 1.3 Select common industry materials where no specific information is provided and material is not critical to design

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.4 Estimate material quantities and express as industry standard lengths or sheet sizes, allowing for minimal wastage</p> <p>1.5 Determine multiple requirements for identical material, and document total quantities</p>
2. Compile materials list	<p>2.1 Calculate, scale or extract physical dimensions for components from production specifications</p> <p>2.2 Establish details and dimensions of components to be listed</p> <p>2.3 Create a material take-off list according to workplace procedures</p> <p>2.4 Categorise items and complete itemised list of all materials from production specifications</p> <p>2.5 Compile and maintain detailed notes and records of material usage, and cutting and machining requirements</p>
3. Calculate quantities and prices	<p>3.1 Calculate and document total requirements for each line item in take-off.</p> <p>3.2 Express quantities in measurement units that match item type, order and production requirements</p> <p>3.3 Calculate total order costs using item rate chart</p> <p>3.4 Complete and maintain accurate records of pricing according to workplace procedures</p> <p>3.5 Retain records of take-off list, pricing and associated documentation</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Numeracy	<ul style="list-style-type: none"> Estimate material quantities and usage for cutting and machining Use formulas to calculate costs

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3304 Take off material quantities	FWPCOT3214 Take off material quantities	Application updated Elements and Performance Criteria reworded and re-sequenced Assessment Requirements updated	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3304 Take off material quantities

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has taken off materials for a minimum of two different timber product designs, and has:

- identified material types, quantities and dimensions from production specifications
- created a take-off list to meet job requirements and minimise waste
- calculated cost of listed materials
- completed records of all calculations, material quantities, usage and pricing.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- categories of different timber-based construction materials:
 - panels
 - sawn timber
 - laminated timber
 - timber species
 - manufactured timber
 - surface treated and finished
- timber fabrication industry standard material lengths and sheet sizes
- methods and processes used to:
 - calculate material quantities
 - minimise wastage
 - format for listing and categorising materials
- workplace policies and procedures to:
 - source cost of materials

- prepare, document and save material quantities and pricing.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber product design or fabrication facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - access to work orders, workplace policies and procedures and relevant workplace price lists for material costs
 - digital equipment and software to calculate, compile and save take-off material lists and costing documentation, if applicable according to workplace procedures.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3305 Interpret and quote from manufactured timber product plans

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to process and prepare manual or electronic quotations from timber wall frame and timber floor and/or roof trusses product plans. It includes interpreting plan layouts and specifications to determine design, material types and material quantities to estimate costs.

The unit applies to timber truss or frame fabricators and timber systems designers who interpret plans and quote on timber and wood products and who take responsibility for organising and completing these tasks with a high degree of self-direction.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Interpret plans and specifications	1.1 Identify type of structure and specified design requirements from product plans and specifications 1.2 Review design options for feasibility, ease of erection, material availability and site requirements, and confirm customer design

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>preference</p> <p>1.3 Identify any limitations or restrictions to specified design, and refer to engineer for clarification</p> <p>1.4 Obtain additional information and data as required from appropriate person or other sources</p> <p>1.5 Create functional and simple pictorial images of the project, including bracing and any additional structural support, based on design and specification requirements</p>
2. Estimate components manually or electronically	<p>2.1 Identify project layout, dimensions for heights, spans and spacing</p> <p>2.2 Identify location of load-bearing members and clarify any specific structural or construction/erection requirements</p> <p>2.3 Determine type of materials, sectional sizes and lengths to be used for the project</p> <p>2.4 Select timber type and species according to suitability and availability</p> <p>2.5 Determine type of ancillaries for the project, and calculate quantities according to design specifications</p>
3. Prepare quotation	<p>3.1 Tally figures and ensure project design, production costs and any additional fees or costs are included</p> <p>3.2 Calculate total cost and review quotation for completeness and accuracy according to workplace procedures</p> <p>3.3 Prepare quotation and associated documentation for presentation</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extract design information from plan and specifications in preparation for quoting
Numeracy	<ul style="list-style-type: none"> Interpret dimensions and numerical data from design plans specifications

Skill	Description
	<ul style="list-style-type: none"> • Use formulas to calculate quantities, unit prices and total costing • Record precise numerical details of measurements, quantities and costs

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3305 Interpret and quote from manufactured timber product plans	FWPCOT3218 Quote and interpret from manufactured timber product plans	Redesigned unit using content from FWPCOT3218 Quote and interpret from manufactured timber product plans and FWPCOT3220 Quote and interpret from computerised timber manufactured product plans Retitled	Not Equivalent
FWPCOT3305 Interpret and quote from manufactured timber product plans	FWPCOT3220 Quote and interpret from computerised timber manufactured product plans	Redesigned unit using content from FWPCOT3218 Quote and interpret from manufactured timber product plans and FWPCOT3220 Quote and interpret from computerised timber manufactured product plans Retitled	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3305 Interpret and quote from manufactured timber product plans

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has prepared a quotation for two different projects, each with a minimum area of 100 square metres as below:

- a timber wall frame, and
- either a timber floor truss or a timber roof truss, each of which must incorporate a minimum of two different truss types.

For each project there must be evidence that the individual has:

- conveyed technical information from plans and specifications in written, sketch or oral form
- accurately determined the size, section and length of materials manually or using a software program
- prepared and saved/filed a quotation in full
- produced and presented quotations within designated timeframes.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- building standards and codes relevant to timber floor trusses, timber roof trusses and timber wall frames:
 - spans and sectional sizes
 - load-bearing details
 - wind bracing and tie down requirements
 - relationship between component loads and supports and spans
- workplace policies and procedures relating to quoting manufacture of timber products:
 - cost inclusions

- calculating and formatting quotations
- sources of material and labour costs
- common industry terminology for components of timber wall frames, roof and floor trusses
- processes, procedures and techniques of quoting:
 - methods to manually calculate quantities using tables and calculators
 - preparing and documenting computerised quotations
 - software programs to calculate quantities and costings

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber systems design or fabrication facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - computer with building design industry and current business software programs
 - calculators
- specifications:
 - access to current building codes and standards relevant to frame and truss fabrication
 - access to workplace project quotation templates
 - access to design plans, technical specifications and notes for timber wall frames, timber roof and floor trusses on which to base a quotation
 - access to electronic or hard copy current material price lists, product description sheets or manuals

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3306 Rehabilitate tracks, quarries and landings

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to identify and plan for the rehabilitation of tracks, quarries and landings, and to conduct renovation and revegetation operations. The unit also includes the establishment of run-off and drainage channels.

The unit applies to individuals who work as forestry technicians, forestry operations supervisors, mobile plant operators, and harvesting technicians within a commercial forest environment and are responsible for rehabilitation operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for rehabilitation operations	1.1 Determine job requirements from work order or instruction, and where required, seek clarification from appropriate personnel 1.2 Confirm safety and environmental requirements according to

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>workplace procedures and regulatory and legislative information relating to the rehabilitation of the site</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with rehabilitation operations</p> <p>1.5 Identify and report existing and potential environmental risks and hazards to relevant personnel</p> <p>1.6 Consult and maintain communication with appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.7 Obtain tools and equipment needed for the work, and check for correct operation and safety</p> <p>1.8 Inspect site and identify specific rehabilitation, revegetation and drainage requirements</p>
2. Plan rehabilitation operations	<p>2.1 Determine sequence of rehabilitation operations to ensure that resources, including people and equipment, are used efficiently and are available as required</p> <p>2.2 Advise relevant personnel of impending rehabilitation operations and any disruptions that may occur, according to workplace procedures</p> <p>2.3 Document the rehabilitation and revegetation works to be undertaken according to workplace procedures</p>
3. Implement repairs to tracks, quarries and landings	<p>3.1 Operate equipment according to manufacturer recommendations, and monitor performance to ensure efficiency and safety of operations</p> <p>3.2 Remove and store any recoverable timber</p> <p>3.3 Remove and dispose of any debris according to workplace procedures</p> <p>3.4 Renovate tracks, quarries and landings according to rehabilitation plan, industry codes of practice, work order and workplace procedures</p> <p>3.5 Establish run-off and drainage channels to approximate natural drain lines</p> <p>3.6 Record and report rehabilitation outcomes according to workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret workplace documentation to determine requirements
Writing	<ul style="list-style-type: none"> Use technical and workplace specific vocabulary to accurately and legibly complete workplace records and forms
Oral communication	<ul style="list-style-type: none"> Select and use appropriate spoken communication strategies with work colleagues and other personnel on site Interpret hand signals with other operators to ensure safety of rehabilitation operations
Numeracy	<ul style="list-style-type: none"> Estimate quantity or amount of materials required for the rehabilitation Estimate time for sequencing tasks and the total time for the job

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3306 Rehabilitate tracks, quarries and landings	FWPCOT3221 Rehabilitate tracks, quarries and landings	Updated and added new Performance Criteria Added new knowledge item Reworded Foundation Skills, Performance Evidence and Assessment Conditions	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3306 Rehabilitate tracks, quarries and landings

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has:

- planned and implemented one rehabilitation operation involving a track, a quarry or a landing
- followed workplace policies and procedures, current workplace health and safety legislation, regulations and related industry standards and codes of practice applicable to rehabilitation operations.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- industry standards and codes of practice and workplace requirements for performing the rehabilitation of tracks, quarries and landings
- environmental protection requirements, including the safe disposal of waste material related to rehabilitation operations
- problem identification and resolution strategies, and common fault finding techniques related to rehabilitation operations
- tools and equipment used for rehabilitation of tracks, quarries and landings, their suitability for different procedures, and their safe use and maintenance
- mathematical procedures for estimating and measuring tasks, time and resources, including calculating time to complete rehabilitation tasks
- factors to consider in planning rehabilitation operations, which may include some of the following:
 - current state of the track, quarry or landing
 - natural water flow and water courses
 - recoverable logs and equipment
 - the impact of harvesting or transportation

- ground slope and stability
- damage to the environment
- weather conditions
- access to suitable equipment and other resources
- safety
- further damage that may result from renovations
- waste disposal
- procedures for recording and reporting workplace information related to rehabilitation operations
- water run-off patterns, soil types and erosion
- workplace health and safety practices related to rehabilitation operations:
 - manual handling techniques, including shifting, lifting and carrying
 - personal protective equipment (PPE) and clothing
 - techniques for elimination of hazardous materials and substances
- plants suitable for revegetation
- rehabilitation techniques, which may include some of the following:
 - pulling out and removing construction materials
 - breaking up ramps and constructions
 - filling and ripping surfaces
 - breaking up and burying crushed rock, sand and other stabilising materials
 - spreading and compacting top soil over base materials
- techniques for managing environmental risks and hazards related to rehabilitation operations, which may include some of the following:
 - uneven and unstable ground
 - overhead and underground services
 - excavations
 - hazardous materials
 - traffic
 - insects and animals
 - fires.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a commercial forest setting or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - tracks, quarries or landings requiring rehabilitation
 - machinery and equipment necessary for the rehabilitation operations

- PPE required in rehabilitation operations
- communication system
- specifications:
 - access to workplace safety and environmental policies and procedures applicable to rehabilitation operations
 - access to workplace procedures and forms for recording rehabilitation outcomes
 - access to workplace standard operating procedures or operator manual for machinery and equipment necessary for rehabilitation operations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3307 Create drawings using computer aided design software

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to produce various types of drawings using computer aided design software. It includes producing plans, diagrams, component details and linked materials lists.

The unit applies to timber truss or frame fabricators and engineered timber product technicians who create drawings of timber and wood products and who take responsibility for organising and completing these tasks with a high degree of self-direction.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for drawing	1.1 Determine job requirements from work order or fabrication plans and, where required, confirm with appropriate person 1.2 Identify types of drawings in set to be created with design software according to intended use

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.3 Select appropriate equipment, and check for operational effectiveness</p> <p>1.4 Plan use of computer aided design software according to workplace procedures</p>
2. Set up software	<p>2.1 Identify software features that will best generate the required drawing outcomes</p> <p>2.2 Customise design software variables, menus, drawing defaults and macros to suit production outcomes</p> <p>2.3 Identify and apply basic drawing elements</p>
3. Create 2D drawings	<p>3.1 Create drawings using full capability of available software</p> <p>3.2 Link drawing entities to database attributes to suit production outcomes</p> <p>3.3 Create detailed views using various scales</p> <p>3.4 Save files in various formats according to workplace procedures</p> <p>3.5 Format linked drawing entities as material lists according to production requirements</p> <p>3.6 Extract supplementary product dimension data from drawings</p> <p>3.7 Record and report drawing process and equipment faults to appropriate person</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret, analyse and comprehend design software program text, symbols and abbreviations to apply relevant information to drawings

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3307 Create drawings using computer aided design software	FWPCOT3239 Create drawings using computer aided design systems	Application clarified Performance Criteria, Foundation Skills and Assessment Requirements updated	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3307 Create drawings using computer aided design software

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has created a set of drawings using a design software program for at least one timber product project, and used the software to:

- manipulate the drawing origin and entities
- modify dimension styles
- access libraries and define and utilise symbols and abbreviations
- display various scaled views
- add title block
- prepare project to printing
- produce a linked materials list.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- workplace policies and procedures relevant to using digital devices, software and creating drawings for a timber project
- capabilities, functions and processes of drawing software programs
- drawing outcomes:
 - orthographic
 - isometric
 - perspective
 - 2-dimensional (2D)
 - 3-dimensional (3D)
- drawing elements:
 - points, line angles, circles, arcs, planes, solids and figures

- shapes – squares, rectangles, triangles
- bisected and divided lines
- dimensions and hatchings
- drawing tools:
 - delete, fillet, chamfer, erase, trim/extend, break, undo and redo
 - zoom and pan
 - move, copy, rotate, mirror
 - polar and rectangular duplication
 - object snaps
 - dimension/measure/divide
 - scale
- drawing features:
 - built-in specifications
 - save
 - file import/export
 - print
- methods to:
 - set up system variables, menus and macros
 - prepare 2D drawings
 - prepare and explode detailed views
 - link drawing entities to materials lists
 - extract supplementary product dimension data from drawings
 - store and retrieve drawings and materials lists
- formats for and inclusions of materials lists according to workplace procedures.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber fabrication facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - computers with current software programs used to produce drawings and materials lists
- specifications:
 - access to workplace product information and fabrication plans on which to base drawings
 - access to workplace materials' lists templates
 - access to workplace policies and procedures for producing drawings and documents using computers.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3308 Assemble timber wall frames

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to assemble construction-ready timber wall frame sections. It includes packing and strapping frames in readiness for transport to a construction site.

The unit applies to frame fabricators, timber manufactured products technicians, jig setters, machine and saw operators who take responsibility for organising and completing tasks assigned to them without close supervision.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for assembly	1.1 Determine job requirements from work order or fabrication plan and, where required, confirm with appropriate person 1.2 Confirm safety requirements for timber frame assembly according to workplace safety procedures 1.3 Identify type and determine quantity of material required for

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	assembly of frame according to fabrication plan 1.4 Determine type of connectors and bracing for frames according to fabrication plan 1.5 Select, fit and use appropriate personal protective equipment (PPE) 1.6 Select appropriate tools and equipment, check for serviceability, and report any faults or damage 1.7 Determine job priorities and sequence job tasks according to fabrication plan
2. Set up for timber frame assembly	2.1 Conduct pre-start check on equipment and machinery according to manufacturer instructions and workplace procedures 2.2 Prepare and set up assembly table or jigs required for assembling frames 2.3 Select pre-cut timber components and accurately position pre-cut members to align with marking or jigs 2.4 Reject and dispose of defective material according to workplace safety and environmental procedures 2.5 Use tools to firmly fix timber components within acceptable tolerances 2.6 Check frame for parallel and square, and fix specified bracing according to fabrication plan 2.7 Locate connector plates and strapping from job specification, and fix securely
3. Prepare products for despatch	3.1 Check finished product for quality and label according to work order and workplace procedures 3.2 Remove frame from jigs and safely stack in designated location 3.3 Strap, pack, label, protect from damage and pre-sling finished products ready for transportation 3.4 Minimise wastage of strapping and packaging materials and maximise use of recycled materials according to workplace environmental procedures 3.5 Record and report production outcomes and problems according to workplace reporting procedures
4. Clean up	4.1 Clean work area and recycle, reuse or dispose of waste according

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>to workplace environmental procedures</p> <p>4.2 Clean and maintain tools, equipment and machinery, and report any faults or damage according to workplace procedures</p> <p>4.3 Return and safely store tools and equipment in designated areas</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Oral communication	<ul style="list-style-type: none"> Report problems, faults or damage clearly and concisely using appropriate terminology

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3308 Assemble timber wall frames	FWPCOT3241 Assemble timber wall frames	<p>Application clarified</p> <p>Elements renamed</p> <p>Performance Criteria re-sequenced</p> <p>Foundation Skills and Assessment Requirements updated</p>	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3308 Assemble timber wall frames

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has assembled a minimum of 50 lineal metres of timber wall frames that include:

- load-bearing and non-load-bearing frames
- internal, external corners and T-intersections
- strapping, packing, labelling and pre-slinging completed products ready for despatch.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- workplace quality requirements relevant to assembling timber wall frames
- workplace environmental policy and procedures for disposing of, recycling and reusing waste materials
- workplace safety requirements relevant to assembling timber wall frames:
 - safe operation of machinery, tools and equipment
 - exposure to excessive noise
 - hazardous manual tasks
 - hazard identification and controls
 - use of personal protective equipment (PPE)
 - exposure to dust
- processes, procedures and techniques for:
 - flow of material supply in and out of the wall frame assembly area
 - assembly sequences using a jig or assembly table
 - stacking and storing materials
 - labelling products for identification and transportation

- stacking, binding and protecting finished products ready for despatch
- workplace communication and reporting lines
- recording and reporting assembly outcomes and equipment faults
- functional and operational features of tools, equipment and machinery:
 - measuring and marking equipment
 - electric circular saws
 - docking saws
 - drills
 - assembly jigs
 - assembly table
 - staple and nail guns
 - compressor or compressed air supply
 - strapping equipment
- characteristics, properties and limitations of timber products and components:
 - hardwood, softwood and manufactured timber products
 - metal connector plates and straps
- timber defects:
 - warp
 - wane
 - cupping
 - shakes
 - insect defects
 - knots
 - resin pockets
- industry terminology related to timber wall assembly:
 - studs
 - top and bottom plates
 - lintels
 - trimmers
 - nogging
 - bracing
- typical assembly faults triggering correction to ensure product quality:
 - incorrectly positioned joints
 - timber splits from nailing
 - incorrectly positioned hardware.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber frame fabrication facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - timber products and components to assemble timber frames
 - equipment, tools and machinery to assemble wall frames and finalise frames for despatch
- specifications:
 - access to work order or fabrication plan detailing frame assembly to be undertaken
 - access to workplace safety and environmental policies and procedures applicable to assembling timber wall frame
- relationships:
 - supervisor or team member.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3309 Assemble timber roof trusses

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to plan, set up and assemble timber roof trusses using a truss jig or computer-operated truss table. It includes the operation and control of a truss press.

The unit applies to truss fabricators, truss press operators, timber manufactured products technicians, jig setters, machine operators or saw operators who take responsibility for organising and completing tasks assigned to them without close supervision.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for assembly	1.1 Determine job requirements from work order or fabrication plan and, where required, confirm with appropriate person 1.2 Confirm safety requirements for timber roof truss assembly according to workplace safety procedures 1.3 Identify type and determine quantity of material required for

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>assembly of roof trusses according to fabrication plan</p> <p>1.4 Determine type of nail plates and components required according to specifications or fabrication plan</p> <p>1.5 Select, fit and use personal protective equipment (PPE)</p> <p>1.6 Select appropriate tools and equipment and check for serviceability and report and faults for damage</p> <p>1.7 Determine job priorities and sequence job tasks according to fabrication plan</p>
2. Set up for timber roof truss assembly	<p>2.1 Prepare, set up and adjust assembly table or jigs to specified roof truss pattern configuration</p> <p>2.2 Select and position pre-cut material to include webs, overhang and other design requirements</p> <p>2.3 Discard defective or unsuitable components according to workplace procedures</p> <p>2.4 Clamp components in jigs, and check for fit and allowable tolerances</p> <p>2.5 Select and position steel nail plates accurately over joints according to fabrication plan</p>
3. Control pressing operations	<p>3.1 Conduct a pre-operation check on truss press equipment according to manufacturer instructions and workplace procedures</p> <p>3.2 Carry out inspection of initial truss to ensure all nail plates fixed according to fabrication plan</p> <p>3.3 Coordinate and operate truss-pressing operations and confirm finished product complies with fabrication plan or work order</p>
4. Prepare products for despatch and report	<p>4.1 Label roof truss according to workplace procedures</p> <p>4.2 Remove components from assembly table or jigs and safely stack in designated location</p> <p>4.3 Strap and pack finished products ready for transportation</p> <p>4.4 Minimise wastage of strapping and packaging materials and maximise use of recycled materials</p> <p>4.5 Record and report production outcomes and problems according to workplace reporting procedures</p>
5. Clean up	5.1 Clean work area and recycle, reuse or dispose of waste according

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>to workplace environmental procedures</p> <p>5.2 Clean and maintain tools, equipment and machinery, and report any faults or damage according to workplace procedures</p> <p>5.3 Return and safely store tools and equipment in designated areas</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Writing	<ul style="list-style-type: none"> Label trusses using clear and legible writing

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3309 Assemble timber roof trusses	FWPCOT3242 Lay up timber roof trusses	<p>Redesigned unit using content from FWPCOT3242 Lay up timber roof trusses and FWPCOT3243 Operate a truss press</p> <p>Re-titled</p> <p>Reworded and added Elements and Performance Criteria</p> <p>Assessment Requirements reworded</p>	Not Equivalent

FWPCOT3309 Assemble timber roof trusses	FWPCOT3243 Operate a truss press	Redesigned unit using content from FWPCOT3242 Lay up timber roof trusses and FWPCOT3243 Operate a truss press Re-titled Reworded and added Elements and Performance Criteria Assessment Requirements reworded	Not Equivalent
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Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3309 Assemble timber roof trusses

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has on at least one occasion:

- assembled a minimum of two of the following:
 - standard type truss
 - truncated standard truss
 - girder truss
 - truncated girder
 - jack truss
 - gable truss
 - saddle/valley truss
- set up and operated a truss press
- labelled, strapped, packed and protected products ready for despatch.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- workplace quality requirements relevant to assembling timber roof trusses
- workplace environmental policy and procedures for disposing of, recycling and reusing waste materials
- workplace safety requirements relevant to assembling timber roof trusses:
 - safe operation of machinery and equipment
 - exposure to excessive noise
 - hazardous manual tasks
 - hazard identification and controls
 - use of personal protective equipment (PPE)

- exposure to dust
- typical timber defects and impact on the finished product:
 - warp
 - wane
 - cupping
 - shakes
 - insect defects
 - knots
 - resin pockets
- processes, procedures and techniques for:
 - flow of material supply in and out of the roof truss assembly area
 - use of assembly componentry
 - assembly sequences and jig and press operation
 - stacking and storing materials
 - labelling products for identification and transportation
 - stacking, binding and protecting finished products ready for despatch
 - workplace communication and reporting lines
 - recording and reporting assembly outcomes and equipment faults
- truss types:
 - standard
 - truncated standard
 - girder truss
 - truncated girder
 - jack truss
 - gable truss
 - saddle/valley truss
- functional and operational features of tools, equipment and machinery for roof truss assembly:
 - electric circular saws
 - docking saws
 - drills
 - staple and nail guns
 - compressor or compressed air supply
 - nail plate presses
 - measuring and marking equipment
 - truss assembly tables
 - assembly jigs
 - strapping equipment
- range of industry standard lengths, cross sections and tolerances and applicable terminology relating to roof trusses

- typical assembly faults triggering correction to ensure product quality:
 - incorrectly positioned joints
 - timber splits from nailing
 - incorrectly positioned connector plates/straps.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber truss fabrication facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - timber products and connector plates
 - assembly tables or jigs to assemble timber roof trusses
 - truss press
- specifications:
 - access to work order or fabrication plan detailing truss assembly to be undertaken
 - access to workplace safety and environmental policies and procedures applicable to assembling timber roof trusses
- relationships:
 - supervisor or team member.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3310 Prepare timber or related products to meet import/export compliance requirements

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to ensure timber or related products meet compliance requirements for import/export. The unit includes reviewing existing workplace procedures for timber import/export for compliance with regulatory requirements, checking that import/export timber meets biosecurity requirements, and completing compliance documentation.

The unit applies to individuals who assess timber for import/export requirements in a variety of work settings, including:

- timber harvesting
- sawmill
- woodchip mill
- veneer mill
- board/plywood mill
- timber and wood products production
- timber and wood products sales and service.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Review workplace procedures for compliance with regulatory requirements for the import/export of timber and related products	<p>1.1 Identify legal requirements for the import/export of timber and related products</p> <p>1.2 Identify biosecurity requirements for the import/export of timber and related products and the types and consequences for breaches of these requirements</p> <p>1.3 Examine workplace procedures to determine compliance with legal and biosecurity requirements for import/export timber or related products</p> <p>1.4 Report potential breaches of legal and biosecurity requirements according to workplace procedures</p>
2. Check import/export timber or related products for compliance with biosecurity requirements	<p>2.1 Identify import/export timber or related products and any associated documentation</p> <p>2.2 Assess properties of import/export timber or related products to determine risk of fungal disease and insect pests</p> <p>2.3 Examine timber or related products to identify potential biohazards associated with the particular species and undertake a risk assessment according to workplace procedures</p> <p>2.4 Determine the need to treat import/export timber or related products, and arrange required treatments according to workplace procedures and regulatory requirements</p> <p>2.5 Establish the need for phytosanitary certification for import/export timber or related products, and arrange appropriate certification, if required</p>
3. Complete compliance requirements	<p>3.1 Complete and check branding and labelling of timber or related products according to workplace procedures and regulatory requirements</p> <p>3.2 Obtain forest certification records and forward to relevant authorities according to workplace procedures and regulatory requirements</p> <p>3.3 Complete and submit compliance records and reports according to workplace procedures and regulatory requirements</p> <p>3.4 Report potential breaches of compliance requirements according to workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Identify, analyse and evaluate complex textual information to determine legislative and regulatory requirements, trends and outcomes
Writing	<ul style="list-style-type: none"> Prepare documentation using format and language appropriate to context, organisational requirements and audience
Oral communication	<ul style="list-style-type: none"> Present information and seek advice using language appropriate to audience Participate in discussions using listening and questioning to elicit advice and to clarify or confirm understanding
Numeracy	<ul style="list-style-type: none"> Calculate numerical information relating to time

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3310 Prepare timber or related products to meet import/export compliance requirements	FWPCOT3250 Prepare timber to meet import/export compliance requirements	Title amended Minor changes to Application Reworded Elements and Performance Criteria Updated Foundation Skills, Performance Evidence and Assessment Conditions	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3310 Prepare timber or related products to meet import/export compliance requirements

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has prepared two consignments of timber or related products for either import or export, and has:

- checked and taken all necessary actions to ensure that timber for import/export complied with legal and biosecurity requirements
- correctly prepared all required compliance documentation for the import/export of the two consignments of timber or related products.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- regulations, standards and codes of practice for identifying import and export requirements of timber and related products, including knowledge of customs and biosecurity requirements
- workplace requirements, policies and procedures for identifying import and export requirements of timber and related products
- timber species identification techniques
- wood properties and how these relate to fungal and insect risks associated with importing/exporting timber
- range of timber treatments meeting biosecurity requirements
- branding and labelling requirements to ensure compliance
- forest certification systems and chain of custody procedures
- established communication channels and protocols
- workplace procedures for recording and reporting records and information.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a workplace location or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - timber for import or export
 - computing facilities for accessing online documentation and preparation of compliance documentation
- specifications:
 - access to work order or instruction detailing timber import/export activities to be carried out by operator
 - access to workplace policies and procedures, regulations and related industry standards and codes of practice applicable to timber import/export
 - access to workplace procedures and forms for recording compliance of timber import/export and reporting breaches.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3311 Use environmental care procedures to undertake fire salvage operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to undertake tree salvaging following forest fires in line with a salvage plan that incorporates environmental protection and sustainability principles.

The unit applies to individuals who work as forestry workers, harvesting technicians and mobile equipment operators as part of forestry, conservation and land management, local government, emergency services and other government agency operations and are involved in fire salvage operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for fire salvage operations	1.1 Determine job requirements from work order or instruction in relation to salvage schedule, and where required, seek clarification from appropriate personnel 1.2 Confirm safety, environmental care and cultural heritage protection requirements according to workplace procedures 1.3 Identify, assess and take actions to mitigate risks and hazards associated with fire salvage operations 1.4 Identify and report existing and potential environmental risks and hazards to relevant personnel 1.5 Identify and confirm preliminary site work and operational activities 1.6 Assess tree location and stability for conditions likely to affect safety and merchandising priorities 1.7 Confirm planning permits and access permission 1.8 Consult and maintain communication with team members and other appropriate personnel to ensure that work is coordinated effectively with others in the workplace 1.9 Obtain tools and equipment needed for the work, and check for correct operation and safety 1.10 Select, fit and use personal protective equipment
2. Perform fire salvage operations	2.1 Monitor movement and whereabouts of others on site 2.2 Undertake pre-harvesting environmental care requirements according to salvage plan and workplace procedures 2.3 Salvage designated trees according to salvage plan 2.4 Disperse or handle heads and non-merchantable stems according to work order 2.5 Haul logs to logs landings and ensure landscape is left in safe condition suitable for regeneration

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
3. Complete documentation	3.1 Tally and record product volumes from salvage site 3.2 Report variations according to workplace procedures 3.3 Record and report operations and environmental care procedures according to workplace procedures 3.4 Report breaches or potential breaches of relevant environmental regulations according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret workplace documentation to determine requirements
Writing	<ul style="list-style-type: none"> Use technical and workplace specific vocabulary to accurately and legibly complete workplace records and forms
Oral communication	<ul style="list-style-type: none"> Select and use appropriate spoken communication strategies with work colleagues and other personnel on site Interpret hand signals with other operators to ensure safety of salvage operations
Numeracy	<ul style="list-style-type: none"> Complete routine calculations and report on size, length and diameter of salvaged trees

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3311 Use environmental care procedures to undertake fire salvage operations	FWPCOT3252 Use environmental care procedures to undertake fire salvage operations	Merged Elements Minor updates to Knowledge Evidence Updated Foundation	Equivalent

Code and title current version	Code and title previous version	Comments	Equivalence status
		Skills, Performance Evidence and Assessment Conditions	

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3311 Use environmental care procedures to undertake fire salvage operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has:

- applied environmental care procedures in undertaking one fire salvage operation
- followed workplace policies and procedures, current workplace health and safety legislation, regulations and related industry standards and codes of practice applicable to fire salvage operations.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- workplace regulations, standards, codes of practice and established safe practices for using environmental care procedures to undertake fire salvage operations
- legislative, standard certification or management requirements relating to:
 - soil erosion mitigation
 - track, road, drainage and crossing maintenance
 - weed management
 - rehabilitation prescriptions
 - watercourse protection
 - flora and fauna management
 - run-off minimisation
 - buffer zone and filter strip maintenance
 - protection of remnant habitat
 - identification of cultural sites
- environmental protection, cultural heritage protection and sustainability principles related to fire salvage operations

- characteristics of trees and timber defects
- criteria for assessment of fire damaged trees:
 - stability
 - safety
 - merchantability
 - appropriate felling technique
- techniques, operations and strategies used to undertake fire salvage
- harvesting and extraction methods related to fire salvage operations
- communication channels and protocols, including notification to authorities, used during fire salvage operations
- problem identification and resolution strategies in relation to plant and equipment used in salvage operations
- procedures for recording and reporting workplace information related to fire salvage operations.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in the workplace or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - tools and equipment required for fire salvage operations
 - a tree area suitable for salvage operations
 - personal protective equipment required in fire salvage operations
 - communication system
- specifications:
 - access to workplace safety and environmental policies and procedures applicable to fire salvage operations
 - access to site emergency procedure
 - access to workplace procedures and forms for recording and reporting operations and breaches of relevant environmental regulations
 - access to workplace standard operating procedures or operator manual for chainsaws.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3312 Implement environmentally sustainable work practices in the work area/work site

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to assess the environmental sustainability and efficiency of existing workplace practices, identify opportunities for improvement, develop and implement environmental sustainability and resource efficiency improvement plans, and monitor the impact of environmental sustainability and resource efficiency measures.

The unit applies to individuals who work in a wide range of roles across all forest industry sectors and are required to implement environmentally sustainable work practices within their work area.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Examine environmental sustainability of current	1.1 Source information on systems and tools for assessing environmental sustainability and the efficiency of resource use in the workplace

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
work practices	<p>1.2 Assess the environmental sustainability of current work practices and the efficiency of resource use in the workplace</p> <p>1.3 Investigate and document current purchasing strategies</p> <p>1.4 Identify areas in the workplace in which environmental sustainability and resource use efficiency could be improved</p>
2. Establish an environmental sustainability and resource efficiency improvement plan	<p>2.1 Seek input from stakeholders, appropriate personnel and specialists on ways of improving environmental sustainability and resource use efficiency according to workplace procedures</p> <p>2.2 Evaluate options for improving environmental sustainability and resource use efficiency in the workplace, and communicate to appropriate personnel</p> <p>2.3 Set environmental sustainability and resource efficiency targets</p> <p>2.4 Develop an environmental sustainability and resource efficiency improvement plan for the workplace</p>
3. Implement environmental sustainability and resource efficiency improvement plan	<p>3.1 Source appropriate techniques and tools to assist in achieving environmental sustainability and resource efficiency targets</p> <p>3.2 Integrate the environmental and resource efficiency improvement plan with other operational activities</p> <p>3.3 Seek suggestions and ideas about environmental sustainability and resource efficiency management from appropriate personnel and stakeholders, and implement where appropriate</p>
4. Monitor performance	<p>4.1 Document progress towards achieving environmental sustainability and resource efficiency targets, and communicate to appropriate personnel and stakeholders</p> <p>4.2 Review targets and environmental sustainability and resource efficiency improvement plan according to workplace procedures</p> <p>4.3 Set new efficiency targets and apply new tools and strategies where appropriate</p> <p>4.4 Promote successful strategies and, where possible, reward participants</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret workplace documentation to determine requirements
Writing	<ul style="list-style-type: none"> Use technical and workplace specific vocabulary to accurately and legibly complete and maintain workplace records and forms
Oral communication	<ul style="list-style-type: none"> Select and use appropriate spoken communication strategies with work colleagues and other personnel on site
Numeracy	<ul style="list-style-type: none"> Interpret and analyse charts, flowcharts and graphs

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3312 Implement environmentally sustainable work practices in the work area/work site	FWPCOT3254 Implement environmentally sustainable work practices in the work area/work site	Updated Application Reworded Elements Minor changes to Performance Criteria Added new knowledge item Updated Foundation Skills, Performance Evidence and Assessment Conditions	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3312 Implement environmentally sustainable work practices in the work area/work site

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has planned, implemented and monitored the outcomes of one environmental sustainability and resource efficiency improvement plan in a real or simulated workplace.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- environmental protection requirements related to a workplace:
 - safe disposal of waste material
 - safe use and storage of chemicals
 - minimisation of carbon emissions and noise
 - cleaning of plant, tools and equipment
 - care of surrounding environment
- workplace standards, requirements, policies and procedures associated with environmentally sustainable work practices:
 - environmental risks and hazards
 - procedures for minimising environmental impact
 - using energy effectively and efficiently
 - using material effectively and efficiently
 - environmental and resource use efficiency issues specific to industry practices
- sources of information on systems and tools for assessing environmental sustainability and the efficiency of resource use in the workplace.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in the workplace or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - systems and tools for assessing environmental sustainability and the efficiency of resource use in the workplace
- specifications:
 - access to workplace environmental policies and procedures applicable to environmental sustainability and resource efficiency
 - access to workplace procedures and forms for recording environmental sustainability and resource efficiency information.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3313 Apply biodiversity protection principles

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to access, interpret and apply biodiversity principles and requirements to forestry operations, including monitoring work practices for compliance, and maintaining forest documentation and records.

The unit applies to individuals whose work involves ensuring biodiversity protection in operational forest environments.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for work	1.1 Determine biodiversity protection requirements for forestry work from work order or instruction, and where required, seek clarification from appropriate personnel 1.2 Confirm regulatory requirements for the application of

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>biodiversity protection principles for various forest types according to workplace procedures</p> <p>1.3 Identify sensitive ecological and biodiversity sites, habitats, landscape features and protection zones in the forest operational plan and maps</p> <p>1.4 Identify, assess and take actions to mitigate risks and hazards associated with biodiversity protection operations</p> <p>1.5 Identify and report existing and potential environmental risks and hazards to relevant personnel</p> <p>1.6 Consult and maintain communication with team members and other appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p>
2. Implement biodiversity protection principles in work practice	<p>2.1 Identify endangered plant and animal communities, threatened species, ecological habitats, sensitive landscape features and protection zones in the field</p> <p>2.2 Identify and report existing and potential ecological risks and hazards</p> <p>2.3 Apply protection measures for endangered plants and animal communities, threatened species, ecological habitats and sensitive landscape features and protection zones according to codes of practice and operational plan</p> <p>2.4 Select, apply and verify protection zone methods and materials with appropriate personnel</p> <p>2.5 Identify situations requiring specialist advice and seek assistance according to workplace requirements</p>
3. Monitor work practices for compliance with biodiversity protection principles	<p>3.1 Monitor and make recommendations to adjust work practices to meet biodiversity principles according to workplace procedures</p> <p>3.2 Make recommendations on ways of adjusting work practices to respond to new or changing ecological and biodiversity conditions</p> <p>3.3 Monitor and maintain ecological and biodiversity protection work practices according to codes of practice and operational plan</p> <p>3.4 Identify and report work practices that are non-compliant with biodiversity protection principles to appropriate personnel</p> <p>3.5 Identify and make recommendations on ways of improving work practices to enhance biodiversity protection</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
4. Maintain records	4.1 Update operational plans with any new threatened species or habitat protection prescriptions 4.2 Record and report biodiversity protection activities to appropriate personnel

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret workplace documentation, including legislation, codes of practice and reports to determine requirements
Writing	<ul style="list-style-type: none"> Use technical and workplace specific vocabulary to accurately and legibly complete workplace records and forms
Oral communication	<ul style="list-style-type: none"> Select and use appropriate spoken communication strategies with work colleagues and other personnel on site
Numeracy	<ul style="list-style-type: none"> Complete routine calculations to report on location and dimensions of biodiversity protection operations Interpret graphical information on number, location and extent of endangered communities, threatened species, ecological habitats, sensitive landscape features and protection zones in the field

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3313 Apply biodiversity protection principles	FWPCOT3256 Apply biodiversity protection principles	Clarified Application Updated and added new Performance Criteria Updated Foundation Skills, Performance Evidence and Assessment	Equivalent

Code and title current version	Code and title previous version	Comments	Equivalence status
		Conditions	

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3313 Apply biodiversity protection principles

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has:

- implemented biodiversity protection procedures in an operational forest on one occasion
- followed workplace policies and procedures, current legislation, regulations and related industry standards and codes of practice applicable to biodiversity protection in operational forest environments
- monitored work practices in one operational forest for consistency with biodiversity principles, and made at least one recommendation on ways of improving work practices to enhance biodiversity protection.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- applicable regulatory and legal requirements that affect forest operations in relation to ecological and biodiversity protection:
 - Environment Protection and Biodiversity Conservation Act 1999 (the EPBC Act)
 - Threatened Species Conservation Act
 - Native Vegetation Act
 - native forest legislation
 - private native forest codes
 - forest operational plans
 - environmental legislation, policy and procedures
 - environmental planning and assessment
 - specific site environmental management plans
 - relevant codes of practice
 - water catchment management

- surface and ground water conservation requirements
- relevant Australian standards and industry standards
- hazard reduction policy and procedures
- plantation legislation
- plantation and reforestation code
- fisheries and fish passage
- national parks and wildlife legislation
- good neighbour policies
- award and organisational agreements
- heritage and traditional landowner
- forest certification (Responsible Wood Certification Scheme and Australian Forestry Standard (AFS) certification)
- types or range of forest operational plans:
 - forest operations plan
 - harvesting plan
 - plantation establishment plan
 - coupe plan
 - roading plan
 - drainage plan
 - sediment and erosion control plan
- habitats, including any area or region local animals, plants or organisms may live or rely upon for food, water, shelter or breeding purposes:
 - habitat plants and trees (*specific species, burrow, food, roost and nest*)
 - recruitment trees
 - standing trees with hollows (dead and alive)
 - stags with roost sites
 - hollow logs
 - rocky outcrops
 - rock overhangs
 - caves
 - soil mounds
 - creeks, springs or river banks
 - sheltered valleys or canyons
 - wetlands
- any other site, feature or zone listed as habitat or potential habitat
- threatened and endangered plant and animal species
- protection zones and protection zone methods where operational conditions are varied by prescriptions for the management of ecological and biodiversity values:
 - buffer zones
 - filter strips

- riparian protection areas
- exclusion zones
- conservation management plan
- regulations, standards, codes of practice and established safe practices for ecological and biodiversity protection
- established communication channels and protocols for compliance with biodiversity protection principles
- procedures for recording and reporting workplace information related to biodiversity protection activities.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in operational forest environments or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - personal protective equipment
 - communication system
- specifications:
 - access to workplace policies and procedures applicable to biodiversity protection operations
 - access to forest operational plans
 - access to workplace procedures and forms for recording biodiversity protection activities.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3314 Comply with soil and water protection

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to carry out soil erosion and sediment control works and pollution prevention measures in forestry operations and other work environments.

The unit applies to individuals who work as forestry technicians, nursery technicians, forestry operations supervisors, tree planters, silviculturists, arboriculture technicians and mobile equipment operators to implement erosion, sediment control and pollution prevention measures in a variety of work settings, including in forest, horticultural, domestic, local council and emergency services environments.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for work	1.1 Determine soil and water protection requirements for the work

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>from work order or instruction and, where required, seek clarification from appropriate personnel</p> <p>1.2 Identify, assess and take actions to mitigate safety risks and hazards associated with soil and water protection operations</p> <p>1.3 Identify and report existing and potential environmental risks and hazards to relevant personnel</p> <p>1.4 Consult and maintain communication with team members and other appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.5 Select tools, equipment and machinery needed for the work, and check for correct operation and safety</p>
2. Conduct erosion and other pollutant control measures	<p>2.1 Identify soil characteristics, weather conditions, environmental features and other factors likely to influence soil and water protection measures</p> <p>2.2 Apply erosion, sediment and other pollution control measures when conducting the work according to forest operational plans</p> <p>2.3 Identify situations requiring specialist advice, and seek assistance</p> <p>2.4 Document and report work activities according to workplace procedures</p>
3. Monitor work practices that impact on soil and water conditions	<p>3.1 Monitor and make recommendations to adjust work practices to meet changing soil and water conditions</p> <p>3.2 Monitor and maintain soil erosion and sediment control works and pollution prevention measures according to workplace requirements</p> <p>3.3 Identify and report work practices that are non-compliant with soil and water protection requirements to appropriate personnel</p> <p>3.4 Identify and make recommendations on ways of improving work practices to enhance soil and water protection</p> <p>3.5 Make recommendations for updating forest operational plan and workplace procedures to enhance soil and water protection as required</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret workplace documentation, including legislation, codes of practice and reports to determine requirements
Writing	<ul style="list-style-type: none"> Use technical and workplace specific vocabulary to accurately and legibly complete workplace records and forms for soil and water protection operations
Oral communication	<ul style="list-style-type: none"> Select and use appropriate spoken communication strategies with work colleagues and other personnel on site
Numeracy	<ul style="list-style-type: none"> Complete routine calculations to report on location and dimensions of soil and water protection operations Interpret graphical information on soil and water conditions

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3314 Comply with soil and water protection	FWPCOT3258 Comply with soil and water protection	Clarified Application Updated and added new Performance Criteria Deleted Element and incorporated its Performance Criteria Updated Foundation Skills, Performance Evidence and Assessment Conditions	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3314 Comply with soil and water protection

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has:

- implemented either a soil or a water protection procedure in an operational work setting on one occasion
- followed workplace policies and procedures, current legislation, regulations and related industry standards and codes of practice applicable to soil and water protection operations
- monitored work practices in one operational work setting for consistency with soil and water protection requirements and made at least one recommendation on ways of improving work practices to enhance soil and water protection.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- regulations, standards, codes of practice and established safe practices for soil and water protection procedures
- applicable regulations from all levels of government that affect operations in relation to soil and water protection:
 - regional agreements
 - relevant codes of practice
 - operational plans
- workplace standards, requirements, policies and procedures relevant to soil and water protection
- techniques and measures relevant to erosion mitigation:
 - walk-over techniques
 - minimal disturbance techniques
 - crown and cross fall drainage

- cross bank drainage
- relief culverts on roads
- mitre and table drains on roads
- armouring/gravelling of roads
- crossing and draining surfaces
- batter stabilisation
- contour banks and channels
- gabions
- sediment basins
- riparian buffer zones
- outlet protection structures
- revegetation
- factors that are likely to influence soil and water protection measures:
 - track and road maintenance
 - drainage structures
 - setting of contour lines
 - slope measurement techniques
 - boundaries and survey markers
 - site preparation techniques
 - site cultivation techniques
 - disposal of logging waste materials
 - windrowing placement and techniques
 - tree selection and felling techniques
 - log dump locations and techniques
 - log extraction and haulage techniques
 - clearing techniques
 - soil types
- environmental features that can be adversely affected if soil erosion occurs, or if inundated with sediment of other pollutants:
 - trees, understorey and other vegetation
 - drainage lines and drainage depressions
 - water course, creeks and rivers
 - lakes, swamps and wetlands
 - aquatic species
 - steep slopes
 - caves
 - historic and cultural heritage sites
 - road and water supply infrastructure
- other pollution control measures:
 - fuel containment barriers

- chemical spillage barriers
- containment and removal of work waste, rubbish litter and human waste
- risks and hazard identification relevant to soil and water protection
- established communication channels and protocols for compliance with soil and water protection
- procedures for recording and reporting workplace information related to soil and water protection activities.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in the workplace or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - tools, equipment and machinery required for soil and water protection operations
 - personal protective equipment used in soil and water protection operations
 - communication system
- specifications:
 - access to workplace policies and procedures applicable to soil and water protection operations
 - access to operational plans
 - access to access to workplace procedures and forms for recording soil and water protection activities.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3315 Transport forestry logs using trucks

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to drive log trucks to and from forest harvesting sites, facilitate log loading and unloading, and deliver logs to their destination.

The unit applies to individuals who transport logs by driving heavy log vehicles in a variety of work settings, including forest environments, landings, log dumps, sawmills, wood chip mills, veneer mills, and board/plywood mills.

All work must be carried out to comply with workplace procedures according to state/territory health and safety and chain of responsibility regulations, legislation and standards that apply to the workplace.

Licensing requirements apply to this unit. Users are advised to check with the relevant regulatory authority.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to transport logs	1.1 Determine job requirements from work order and schedules and, where required, seek clarification from appropriate personnel 1.2 Confirm safety and environmental protection requirements for

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>the task according to workplace procedures and chain of responsibility obligations</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with driving log trucks according to regulatory requirements and industry code of practice</p> <p>1.4 Obtain coupe map to identify forest harvesting site, truck entry, access and exit tracks and loading areas</p> <p>1.5 Determine required truck configuration to meet work order and loading and stability requirements, and confirm availability of truck and ancillary equipment or breach of requirements according to workplace procedures</p> <p>1.6 Participate in audits of loads for compliance with regulatory requirements for driving hours, load limits and dimensions as required</p> <p>1.7 Consult and maintain communication with team members and other appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.8 Select, fit and use personal protective equipment</p> <p>1.9 Conduct pre-start-up checks, load restraint equipment and tag out and report any observed component wear or failure to the appropriate personnel for repair or replacement</p>
2. Plan route	<p>2.1 Select route and coupe entry and exits points to ensure efficient, safe and legal movement of logs, and compliance with environment protection procedures</p> <p>2.2 Confirm selected route complies with height, width, overhang and load limits of road infrastructure and environmental constraints</p> <p>2.3 Estimate time required to transport logs, and account for fatigue management guidelines</p> <p>2.4 Confirm route, timing and coupe entry and exit points with appropriate personnel</p>
3. Support log loading and load construction	<p>3.1 Access site and determine safe manoeuvring approach for loading area with worksite personnel</p> <p>3.2 Position truck in designated safe zone to avoid hazards and maximise load safety and security while loading</p> <p>3.3 Communicate with loader, from a designated safe zone, to assist with the placement of the logs on the vehicle to achieve the required</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>3.4 Communicate the remaining payload capacity and weight distribution with the loader from a designated safe zone</p> <p>3.5 Check that maximum permissible axle masses and total combination mass are not exceeded</p> <p>3.6 Check log placement for vertical containment before applying restraints</p> <p>3.7 Monitor loading and remotely communicate, from a designated safe zone, to the loader any adjustments required to log positioning to prevent stanchion damage</p> <p>3.8 Discuss any concerns about the positioning and/or size of the selected logs with the loader, and adjust if required</p>
4. Secure logs prior to transport	<p>4.1 Secure load with load restraint system for type and size of load according to industry guidelines, code of practice and transport regulatory requirements</p> <p>4.2 Re-tension manual restraint equipment as required to ensure the pre-tension is maintained, particularly as the load settles</p> <p>4.3 Use tensioning systems according to manufacturer recommendations</p> <p>4.4 Clean the trailer, tyres and the exterior of the load, if loaded, to remove debris before driving</p> <p>4.5 Fit overhang warning devices and signage to load to comply with transport regulatory requirements</p>
5. Transport logs	<p>5.1 Transport logs on planned or modified route, considering conditions, road surfaces and fatigue management practices</p> <p>5.2 Monitor condition of tracks and roads, and report unexpected ground, water, vegetation and other environmental conditions to appropriate personnel</p> <p>5.3 Drive truck legally and safely using primary and subsidiary controls appropriate to conditions</p> <p>5.4 Monitor truck gauges and warning devices to detect and respond to operating faults and ensure operational safety</p> <p>5.5 Communicate with other drivers and road users to inform location and potential hazards</p> <p>5.6 Conduct periodic load safety checks and re-tension load</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>according to road conditions, workplace procedures, industry code of practice and regulatory requirements</p> <p>5.7 Keep communication channels open to ensure location is known at all times to allow for emergency assistance</p>
6. Facilitate log unloading	<p>6.1 Complete site inductions and establish safe manoeuvring approach for unloading area with worksite personnel</p> <p>6.2 Follow site personnel directions to manoeuvre and park truck to avoid site and equipment hazards</p> <p>6.3 Shut down and secure truck in identified safe unloading zone</p> <p>6.4 Inspect load for log movement and make provisions to support logs requiring difficult control during release</p> <p>6.5 Release load securing devices in correct sequence for truck, trailer and load configuration and in line with site safe unloading procedures</p> <p>6.6 Make truck, trailer and ancillary equipment safe for return journey to coupe</p> <p>6.7 Record and report log haulage process, near miss incidents and truck operating faults to appropriate personnel according to workplace procedure</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret routine workplace health and safety instructions and signage to determine requirements
Writing	<ul style="list-style-type: none"> Use technical and workplace specific vocabulary to accurately and legibly complete workplace records and forms
Oral communication	<ul style="list-style-type: none"> Ask questions and actively listen to clarify contents of workplace documentation Give clear and sequenced information and ask clarifying questions when coordinating tasks with team members and

Skill	Description
	others
Numeracy	<ul style="list-style-type: none"> Complete calculations against regulatory specifications of heights, widths and weights of loads and transportation distances, times and rest periods Interpret truck gauges and warning devices Record numerical data involving distances, times, weights and dimensions

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3315 Transport forestry logs using trucks	FWPCOT3261 Transport forestry logs using trucks	Unit updated to match skill and knowledge requirements outlined in the industry Code of Practice Clarified Application Deleted and added a new Performance Criteria Updated Knowledge Evidence, Foundation Skills, Performance Evidence and Assessment Conditions	Not Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3315 Transport forestry logs using trucks

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has:

- planned and completed log haulage according to an individual work order and transport schedule of one mixed small load of logs and one similar large load of logs
- completed reports on the log haulage, near miss incidents and truck operating faults for each haulage operation.

In conducting this work, the individual has followed workplace policies and procedures, current workplace health and safety legislation, regulations and related industry standards and codes of practice applicable to transporting forestry logs using trucks.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- purpose and content of applicable Commonwealth, state or territory transport regulations for driving heavy logging vehicles, with particular emphasis on load limits, allowable dimensions, driving hours, fatigue management and required rest breaks
- applicable fall from heights regulations and compliance requirements
- environmental protection practices relevant to driving heavy logging trucks to minimise:
 - fuel consumption
 - emissions
 - noise
 - damage to soil, water and other aspects of habitat
- key features of site conditions and effects on driving heavy logging trucks:
 - sealed and unsealed roads and tracks
 - ground slope

- ground hazards and obstacles
- wind and dust
- fog and rain
- common safety hazards and risks associated with log haulage as outlined in industry code of practice methods used to assess vehicle condition and complete pre-start checks
- load construction practices used to eliminate or minimise risks as outlined in industry code of practice:
 - stanchion engagement and/or containment to prevent log loss in the event of limited load movement
 - load crowning and its relationship to load restraint
 - distribution of butts within the load and the effect on the load restraint and vehicle stability
 - distribution of weight across the load and the effect on the load restraint and vehicle stability
 - maximum permissible dimensions and masses including combination and axle
 - debris management and prevention of on-road projectiles
- load restraint practices used to eliminate or minimise risks as outlined in industry code of practice:
 - National Regulation Performance Standards for heavy vehicles (mass, dimension and loading) and their relationship to load restraint
 - principles of clamping and blocking for restraint
 - typical capacity and selection of load restraint systems
 - application of restraint required
 - effective use of blocking systems
- heavy vehicle stability and control practices used to eliminate or minimise risks as outlined in the industry code of practice:
 - evaluation of Static Roll Threshold and adjustment of load centre of gravity
 - assessment of vehicle condition
 - identification of hazardous driving conditions and/or environmental limitations and risk mitigation techniques
 - advantages of vehicle monitoring systems and how to operate them
- methods used to plan time-efficient routes and schedules to comply with regulations and environmental considerations
- features, capabilities and capacities of logging trucks and trailers:
 - rigid or articulated log trucks
 - semi-trailers
 - jinkers
 - quad-dogs
 - B doubles
 - two-bay skeletal trucks
- purpose, features, performance and safe operation of equipment:

- load restraint equipment, including stanchions, bolsters, grip plates, blocking systems, cab guards, lashings, automatic lashing tensioning systems, manual lashing tensioning systems
- active vehicle monitoring systems
- passive vehicle monitoring systems
- overhang warning devices, including flags, lights, reflectors and signs
- communication equipment, including two-way radio and hands-free mobile phones
- workplace procedures specific to transporting, loading and unloading logs:
 - workplace health and safety, with particular emphasis on rest breaks, emergency response procedures and use of personal protective equipment (PPE)
 - communication reporting lines
 - recording and reporting log haulage processes, near miss incidents and truck operating faults.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in the workplace on a heavy log track or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - log trucks and trailers suitable for transporting logs
 - load restraint equipment and overhang warning devices suitable for transporting logs
 - supply of logs for mixed small load of logs and similar large load of logs
 - communication equipment
 - PPE required in log haulage operations
- specifications:
 - access to work order or instruction detailing the log haulage activity to be conducted by operator
 - access to workplace safety and environmental protection policies and procedures applicable to log haulage operations
 - access to workplace procedures and forms for recording log haulage information.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3316 Transport forestry produce using trucks

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to drive trucks to and from forestry harvesting sites, facilitate loading and unloading, and deliver forestry produce to its destination. Produce could include bark, wood shavings, wood chips and biofuel materials.

The unit applies to individuals who transport forestry produce by driving heavy vehicles in a variety of work settings, including forest environments, log dumps, saw mills, wood chip mills, veneer mills, and board/plywood mills.

All work must be carried out to comply with workplace procedures according to state/territory health and safety and chain of responsibility regulations, legislation and standards that apply to the workplace.

Licensing requirements apply to this unit. Users are advised to check with the relevant regulatory authority.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to transport forestry produce	1.1 Determine job requirements from work order and schedules and, where required, seek clarification from appropriate personnel 1.2 Confirm safety and environmental protection requirements for the

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>task according to workplace procedures and chain of responsibility obligations</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with driving trucks according to regulatory requirements and industry code of practice</p> <p>1.4 Obtain coupe map to identify forest harvesting site, truck entry, access and exit tracks and loading areas</p> <p>1.5 Determine required truck configuration to meet work order and load requirements, and confirm availability of truck and ancillary equipment</p> <p>1.6 Participate in audits of loads for compliance with regulatory requirements for driving hours, load limits and dimensions as required</p> <p>1.7 Consult and maintain communication with team members and other appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.8 Select, fit and use personal protective equipment</p> <p>1.9 Conduct pre-start-up checks, and load restraint equipment according to workplace procedures</p> <p>1.10 Tag out and report any observed component wear or failure to the appropriate person for repair or replacement</p>
2. Plan route	<p>2.1 Obtain coupe map to select route and coupe entry and exits points, ensuring efficient, safe and legal produce movement and minimal environmental damage</p> <p>2.2 Confirm selected route complies with height, width and load limits of road infrastructure and environmental constraints</p> <p>2.3 Estimate time required to transport produce, and account for fatigue management guidelines</p> <p>2.4 Confirm route, timings and coupe entry and exit points with appropriate personnel</p>
3. Load forestry produce	<p>3.1 Access site and determine safe manoeuvring approach for loading area with worksite personnel</p> <p>3.2 Position truck to avoid site and equipment hazards and to maximise load safety and security while loading</p> <p>3.3 Communicate with worksite personnel and machine operators to ensure safe loading location and processes and that load meets</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	transport regulatory requirements 3.4 Monitor loading and complete final check to ensure safe transport 3.5 Secure load with sufficient number and type of securing devices according to loading guidelines and transport regulatory requirements
4. Transport forestry produce	4.1 Transport forestry produce on planned or modified route, considering conditions, road surfaces and fatigue management practices 4.2 Monitor condition of tracks and roads, and report unexpected ground, water, vegetation and other environmental conditions to appropriate personnel 4.3 Drive truck legally and safely using primary and subsidiary controls appropriate to conditions 4.4 Monitor truck gauges and warning devices to detect and respond to operating faults and ensure operational safety 4.5 Communicate with other drivers and road users to inform location and potential hazards 4.6 Conduct periodic load safety checks and realign load according to road conditions and regulatory requirements 4.7 Keep communication channels open to ensure location is known at all times to allow for emergency assistance
5. Unload forestry produce	5.1 Complete site inductions and establish safe manoeuvring approach for unloading area with worksite personnel 5.2 Follow site personnel directions to manoeuvre and park truck to avoid site and equipment hazards 5.3 Shut down and secure truck in identified safe unloading zone 5.4 Release load securing devices and unload forestry produce according to site safe unloading procedures 5.5 Make truck, trailer and ancillary equipment safe for return journey to coupe 5.6 Record and report forestry produce shifting process and truck operating faults to appropriate personnel

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret routine workplace health and safety instructions and signage to determine requirements
Writing	<ul style="list-style-type: none"> Use technical and workplace specific vocabulary to accurately and legibly complete workplace records and forms
Oral communication	<ul style="list-style-type: none"> Ask questions and actively listen to clarify contents of workplace documentation Give clear and sequenced information and ask clarifying questions when coordinating tasks with team members and others
Numeracy	<ul style="list-style-type: none"> Complete calculations against regulatory specifications of heights, widths and weights of loads and transportation distances, times and rest periods Interpret truck gauges and warning devices Record numerical data involving distances, times, weights and dimensions

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3316 Transport forestry produce using trucks	FWPCOT3262 Transport forestry produce using trucks	Clarified Application Added new Performance Criteria Updated Foundation Skills, Performance Evidence and Assessment Conditions	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3316 Transport forestry produce using trucks

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has:

- planned and completed all activities associated with forest produce haulage according to an individual work order and transport schedule prescribing different load quantities, coupe locations and destinations for each job, on three occasions
- completed reports on the forest produce haulage, near miss incidents and truck operating faults for each haulage operation.

In conducting this work, the individual has followed workplace policies and procedures, current workplace health and safety legislation, regulations and related industry standards and codes of practice applicable to transporting forestry produce using trucks.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- purpose and content of applicable Commonwealth, state or territory transport regulations for driving heavy forestry produce vehicles, with particular emphasis on load limits, allowable dimensions, driving hours, fatigue management and required rest breaks
- applicable fall from heights regulations and compliance requirements
- environmental protection practices relevant to driving heavy forestry produce trucks to minimise:
 - fuel consumption
 - emissions
 - noise
 - damage to soil, water and other aspects of habitat
- key features of these varying environmental conditions and effects on driving heavy forestry produce trucks:

- sealed and unsealed roads and tracks
- ground slope
- ground hazards and obstacles
- wind and dust
- fog and rain
- typical safety hazards present at loading and unloading facilities, and methods used to minimise associated risks
- methods used to:
 - plan time-efficient routes and schedules to comply with regulations and environmental considerations
 - safely load, restrain and unload forestry produce
- features, capabilities and capacities of forestry produce trucks and trailers
- purpose, features and safe operation of equipment used to load, unload and transport forestry produce:
 - load securing devices
 - communication equipment
- workplace procedures specific to transporting, loading and unloading forestry produce:
 - workplace health and safety, with particular emphasis on rest breaks and use of personal protective equipment (PPE)
 - communication reporting lines
 - recording and reporting forestry produce shifting processes and truck operating faults.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in the workplace on a heavy log track or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - trucks and trailers suitable for transporting forest produce
 - load securing and overhang warning devices suitable for transporting forest produce
 - supply of forest produce
 - communication equipment
 - PPE required in forest produce haulage operations
- specifications:
 - access to work order or instruction detailing the forest produce haulage activity to be conducted by operator
 - access to workplace safety and environmental policies and procedures applicable to forest produce haulage operations
 - access to workplace procedures and forms for recording forest produce haulage information.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3317 Use chainsaw within a tree

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to operate a chainsaw at heights within a tree safely.

The unit applies to individuals who use chainsaws off ground when conducting tree trimming or dismantling work whilst working at height in arboriculture settings. They work under some supervision, generally within a team environment.

Individuals who use this unit will have had experience in using arborist climbing techniques and chainsaws in an arboriculture, forestry or related work context. This unit is not intended for use by novice or inexperienced chainsaw operators.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation, standards and industry codes of practice that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for work	<p>1.1 Determine job requirements from work order or instruction and, where required, seek clarification from appropriate personnel</p> <p>1.2 Confirm safety and environmental protection requirements according to workplace procedures</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with using chainsaws off ground</p> <p>1.4 Identify emergency plan procedures to follow in the event of an emergency</p> <p>1.5 Erect warning and prohibition signs to indicate a hazardous worksite and that unauthorised access is prohibited according to workplace safety procedures</p> <p>1.6 Identify, assess and determine cutting requirements according to work order or instruction</p> <p>1.7 Consult with appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.8 Select, fit and use personal protective equipment</p> <p>1.9 Obtain chainsaw appropriate for the task, height access equipment and other tools and equipment needed for the work, and check for correct operation and safety according to manufacturer recommendations and workplace procedures</p> <p>1.10 Confirm with appropriate personnel that one person is present on the ground during working at height operations and this person is competent and equipped to perform aerial rescue</p>
2. Assess site conditions and surroundings	<p>2.1 Inspect site for conditions likely to affect safe use of chainsaw off ground</p> <p>2.2 Observe weather conditions and assess likely impact on safe use of chainsaw off ground</p> <p>2.3 Identify and report site environmental conditions to appropriate personnel</p> <p>2.4 Determine work area and implement control measures to minimise risks and hazards in the area according to safe work procedures</p> <p>2.5 Monitor location and activity of other personnel on the worksite, and implement control measures according to workplace safety procedures</p>
3. Pre-start chainsaw	3.1 Fuel and lubricate saw on the ground according to manufacturer

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>instructions and workplace procedures</p> <p>3.2 Perform pre-start checks on chainsaw according to manufacturer instructions and workplace procedures</p> <p>3.3 Start chainsaw using cold and warm starting methods on the ground according to workplace safety procedures</p> <p>3.4 Confirm the chainsaw is running effectively prior to ascending tree</p> <p>3.5 Select, communicate to team members and apply appropriate method for sending chainsaw to the operator according to workplace health and safety procedures</p>
4. Carry out safe chainsaw operation	<p>4.1 Access tree safely and confirm that body positioning and movements are safe and ergonomically efficient according to current Australian Standards and workplace safety procedures</p> <p>4.2 Secure chainsaw whilst at height by means of a suitable lanyard</p> <p>4.3 Obtain the best available working position to minimise risk of being struck by saw or by severed pieces of wood</p> <p>4.4 Check that the chain of the saw is clear of obstructions, including climbing equipment, protective clothing or parts of the tree, before restarting in the tree</p> <p>4.5 Start chainsaw according to manufacturer instructions and workplace safety procedures</p> <p>4.6 Obtain confirmation from ground crew before performing cuts, using the call and response protocol</p> <p>4.7 Maintain proper control of the saw by gripping with two hands and keeping saw well clear of body and climbing equipment at all times according to workplace safety procedures</p> <p>4.8 Select and accurately apply a range of appropriate cuts according to current Australian Standards and industry codes of practice, to achieve required behaviour of cut piece according to workplace procedures</p> <p>4.9 Confirm the chainsaw is switched off, or the chain brake applied, after each cutting operation</p> <p>4.10 Apply safe technique for freeing a trapped chainsaw according to workplace safety procedures</p> <p>4.11 Apply safe cutting techniques according to current Australian Standards, and work positioning, to complete operational tasks according to work order or work instructions</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	4.12 Apply safe methods for returning chainsaw to the ground for refuelling according to workplace safety procedures
5. Carry out machine operator maintenance	5.1 Follow workplace safety procedures and manufacturer instructions to lock out equipment 5.2 Inspect chainsaw on completion of cutting activities 5.3 Identify damage to chainsaw and cutting attachments, and tag for repair, service or replacement according to workplace requirements and manufacturer recommendations 5.4 Remove, clean, adjust, sharpen or replace chain and other components according to workplace requirements and manufacturer recommendations

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Writing	<ul style="list-style-type: none"> Use technical and enterprise specific vocabulary to accurately and legibly complete workplace records and forms
Numeracy	<ul style="list-style-type: none"> Interpret numerical and graphical information in manufacturer manuals

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3317 Use chainsaw within a tree	Not applicable	This unit has been created to address an emerging skill or task required by industry	Newly created

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3317 Use chainsaw within a tree

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual planned, prepared and safely and effectively operated a chainsaw at height in two trees and performed cuts according to a work order or work instructions and current Australian Standards and industry codes of practice applicable to the safe use of chainsaw in trees.

One tree must be in close proximity to a structure or other asset or replicated structure or asset and have a minimum height of 15 metres and canopy spread with a minimum of 10 metres. There must be a designated drop zone and cut material must be placed within this zone.

There must also be evidence that for each tree the individual has:

- applied safe and effective fall arrest positioning and cutting positioning to perform cuts
- applied safe and effective cutting techniques to achieve the required behaviour of cut piece for:
 - a horizontal branch with a diameter greater than 100 mm
 - a head or section of vertical timber with a diameter greater than the bar length of the saw
 - a leaning section or leader
- selected and used appropriate zone drops as required to ensure that all cut pieces land within the drop zone
- carried out routine maintenance on a chainsaw on two occasions.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of

- types, cc rating, bar length and operation of chainsaws
- features and names of different parts of chainsaws

- workplace health and safety requirements according to the AS 2726.2 and AS 2727 or successor:
 - personal protective equipment (PPE) and clothing
 - safety equipment
 - first aid equipment
 - firefighting equipment
 - hazard and risk control procedures
 - fatigue management procedures
 - safety signage
 - safe workplace practices
- hazards and related risks associated with chainsaw use off ground, and methods to minimise associated risks:
 - physical conditions of the site
 - falls
 - strains
 - slips
 - dehydration
 - fire
 - overhead services
 - carrying saw and equipment
 - traffic
 - features and cutting actions of chainsaw
 - falling branches
 - overreaching
 - operating saw above head height
 - saw nicking
 - kickback
 - user complacency and fatigue
 - one-handed chainsaw use
 - structures
 - hazardous materials
 - insects and animals
 - people on or near worksite
 - machinery on or near worksite
- height access equipment:
 - belt and harness condition
 - adjustment on user
 - lanyard adjustment
 - chainsaw securing hook
 - specification

- maintenance
- purpose, features and operation of tools and equipment used in chainsaw use and maintenance activities
- specifications and types of bars, chains and sprockets
- techniques for:
 - removing chains and other chainsaw components
 - assessing chain condition
 - reassembling chainsaw components
- hazards associated with maintaining chainsaws, and methods to minimise associated risks:
 - noise
 - fumes
 - mechanical vibration
 - hazardous substances
 - cuts
 - burns
 - rotating parts
- cutting techniques according to the AS 4373 and AS 2727 or successor, and industry codes of practice
- safe procedures for raising and lowering chainsaw to and from ground
- workplace procedures specific to chainsaw use off ground:
 - workplace health and safety, with particular emphasis on equipment lock-out and use of PPE
 - communication reporting lines
 - recording and reporting repairs, maintenance activities and equipment faults
- heritage-listed trees protected by legislation in relevant jurisdictions
- environmental protection practices relevant to chainsaw use and maintenance:
 - protection of natural and cultural assets
 - cleaning plant, tools and equipment
 - disposing of, recycling and reusing materials
 - disposing of hazardous substances.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in an arboricultural workplace or environment that accurately represents workplace conditions
- resources, equipment and materials:
 - chainsaws
 - height access equipment

- other tools and equipment needed for using chainsaws off ground and chainsaw maintenance
- chainsaw consumables
- trees
- person who is competent and equipped to perform aerial rescue
- PPE required in using chainsaws off ground and chainsaw maintenance
- specifications:
 - access to work order or instruction detailing off ground chainsaw operations to be carried out by operator
 - access to workplace policies and procedures that cover current workplace health and safety and environmental protection legislation and related industry standards and codes of practice applicable to off ground chainsaw operations
 - access to site emergency procedure
 - access to workplace safe operating procedures for off ground chainsaw operations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3318 Access, capture and communicate forestry field data using mobile devices

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to set up and use mobile or handheld devices such as a smartphone, personal digital assistant (PDA), portable media player, electronic organiser or data logger, for accessing, capturing, processing, exchanging and storing forestry field data. This unit includes selecting and using forestry applications on mobile devices, transferring data to and from mobile devices and optimising the performance of mobile devices.

The unit applies to individuals who are required to set up and use mobile devices to communicate field data as part of their work in forestry field operations in either a native forest or plantation setting.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
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<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
<p>1. Set up and customise mobile device</p>	<p>1.1 Determine job requirements from work order, workplace health and safety, environmental protection and emergency procedures and, where required, seek clarification from appropriate personnel</p> <p>1.2 Identify and report hazards according to workplace health and safety requirements to maintain safe work practices</p> <p>1.3 Identify types, features, uses and limitations of mobile devices used in forestry field operations</p> <p>1.4 Access mobile network according to workplace procedures</p> <p>1.5 Prepare, set up and configure mobile device for use according to manufacturer and workplace procedures</p> <p>1.6 Select, use and customise interface features and settings to meet needs and improve efficiency according to manufacturer and workplace procedures</p> <p>1.7 Comply with workplace mobile device acceptable use policies</p>
<p>2. Select and use forestry applications and files on mobile device</p>	<p>2.1 Load or select forestry-related applications and files on mobile device</p> <p>2.2 Identify file formats appropriate for mobile devices</p> <p>2.3 Use software or tools to prepare or convert files to appropriate format for mobile devices</p> <p>2.4 Input forestry data using touch screen, stylus, keypad and voice command accurately into a mobile device</p> <p>2.5 Download and complete work-related forms and documentation</p> <p>2.6 Create text files, including notes and email, and graphic files, including sound recording, image and video capture, on mobile device</p> <p>2.7 Apply workplace procedures for checking quality and accuracy of data captured on mobile device</p> <p>2.8 Organise, store and retrieve data efficiently on a mobile device according to workplace procedures</p>
<p>3. Transfer data to and from mobile devices</p>	<p>3.1 Identify the types of secure connection methods used between devices</p> <p>3.2 Determine data storage capacity of mobile device relative to the data that will be collected</p> <p>3.3 Provide adequate data storage capacity using a storage card as necessary</p> <p>3.4 Transfer information to and from mobile devices using secure connection procedures</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>3.5 Synchronise mobile device data with source data according to workplace procedures</p> <p>3.6 Recognise copyright and other constraints on the use and transfer of information</p> <p>3.7 Follow workplace procedures for maintaining security of information when using mobile device</p>
4. Optimise performance of mobile device	<p>4.1 Identify factors that can affect performance of mobile device in forestry settings</p> <p>4.2 Apply techniques to optimise performance of mobile device according to manufacturer instructions and workplace procedures</p> <p>4.3 Apply diagnostic procedures to identify and solve routine problems with mobile device according to manufacturer instructions and workplace procedures</p> <p>4.4 Recognise limits of own knowledge and skill in relation to mobile devices and, when required, source expert advice on mobile device and associated applications according to workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret manufacturer and workplace instructions on use and operation of mobile devices to determine work requirements
Writing	<ul style="list-style-type: none"> Record routine text information related to forestry operations using mobile applications
Oral Communication	<ul style="list-style-type: none"> Ask questions to clarify instructions or information on use of mobile devices
Numeracy	<ul style="list-style-type: none"> Record routine numerical information related to forestry operations, using mobile applications Recognise numerical and mathematical symbols used on mobile devices and forestry applications

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3318 Access, capture and communicate forestry field data using mobile devices	Not applicable	This unit has been created to address an emerging skill or task required by industry	Newly created

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3318 Access, capture and communicate forestry field data using mobile devices

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has:

- configured and effectively operated a mobile device to access, capture and communicate forestry field data on four occasions according to a work order or work instructions
- applied at least two strategies to optimise performance of mobile device in a forestry setting.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- procedures for accessing mobile network:
 - connection protocols
 - VOIP
 - SMS
- procedures for setting up mobile device:
 - charging battery
 - password and login
 - SIM card
 - storage card
 - new connection
 - network settings
- types, features and procedures for using mobile devices – smartphones, tablets, PDAs, laptop computers
- types of mobile applications used to access, capture and communicate workplace and forestry data:

- proprietary
- open source
- forestry company-specific
- procedures for identifying version of mobile applications and checking for correct version
- procedures for accessing forestry-related mobile applications and files
- basic procedures for using mobile devices to record workplace and forestry data:
 - entering text
 - recording GPS coordinates
 - capturing individual points on screen or streaming
 - drawing on screen
 - loading and downloading files
 - capturing sound, video and images
 - using name, date and filing conventions
- factors influencing mobile device performance:
 - battery life
 - application and file use
 - device maintenance
 - network availability
 - interference
- procedures for optimising mobile device performance:
 - carrying out routine maintenance
 - Bluetooth or Wi-Fi turned off when not in use
 - closing applications after use
 - battery management
- types of forestry data collected on mobile devices:
 - inventory
 - quality assurance
 - survival rates
 - hazards
 - site preparation
 - plantation boundaries
 - residue assessment
 - special values
 - forest damage, including windthrow, burnt areas, pest and disease
 - harvest progress boundaries
- reasons and procedures for ensuring accuracy and quality of forestry data captured on mobile devices
- common problems associated with use of mobile devices and mobile applications in forestry settings
- mobile device acceptable use policies

- procedures for data security
- sources of expert advice on mobile devices and associated applications:
 - help menus
 - operator manual
 - following on-screen help
 - using diagnostic tools and wizards
 - forestry company IT specialists.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forestry or plantation setting
- resources, equipment and materials:
 - mobile device
 - access to forestry-related mobile applications and files
- specifications:
 - access to work order, instruction or production plan detailing activities to be carried out by operator that require use of mobile device
 - access to workplace safety policies and procedures applicable to use of mobile devices
 - access to site emergency procedure
 - access to user manual for mobile device.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3319 Read and interpret digital maps and forest operation plans

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to read and interpret digital maps and forest operation plans. The unit also includes sourcing, downloading and using digital maps, recording details of physical features, hazards and forestry assets on digital maps, and sourcing, downloading and extracting information from forest operation plans.

The unit applies to individuals who use digital maps and operations plans as part of their work in forestry field operations in either a native forest or plantation setting.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Source and use	1.1 Install digital map application on mobile device according to

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
third-party digital maps	developer instructions 1.2 Browse map library and download relevant map 1.3 Use map tools to view, zoom and pan maps 1.4 Establish and identify Global Positioning System (GPS) coordinates of own and other locations on map 1.5 Apply processes to orientate self in relation to map based on field observations 1.6 Use map functions to determine distance, direction, travelling time and routes between locations on map 1.7 Locate, label and enter attribute data and notes on physical features, hazards and forestry assets on map according to developer instructions and workplace procedures 1.8 Capture digital images of physical features, hazards and forestry assets, and plot on map according to developer instructions and workplace procedures 1.9 Hide or display layers to view on map 1.10 Use folders for storage and retrieval of maps according to workplace procedures
2. Source and extract data from forest operation plan	2.1 Source and download forest operation plan to mobile device 2.2 Verify version of forest operation plan 2.3 Identify and access maps, site-specific information and instructions in forest operation plan 2.4 Confirm meanings of key terms used in the forest operation plan 2.5 Extract forestry information, including information on coupe boundaries and adjacent land uses, vegetation cover, forest operation and management, silviculture operations, protection of physical and cultural environment and construction and maintenance of forest infrastructure from plan 2.6 Apply map reading conventions, including interpretation of title, GPS coordinates, symbols and abbreviations, legend, orientation and scale, to extract forestry-related information from forest operation plan map 2.7 Identify amendments to forest operation plan 2.8 Apply processes to validate data in forest operation plan based on field observations

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret complex text including technical terms contained in forest operation plans
Writing	<ul style="list-style-type: none"> Record routine text information related to forestry operations using digital mapping applications
Oral communication	<ul style="list-style-type: none"> Ask questions to clarify instructions or information
Numeracy	<ul style="list-style-type: none"> Record routine numerical information related to forestry operations, using digital mapping applications Perform routine mathematical calculations related to using scale and calculating distances

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3319 Read and interpret digital maps and forest operation plans	Not applicable	This unit has been created to address an emerging skill or task required by industry	Newly created

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3319 Read and interpret digital maps and forest operation plans

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has:

- sourced, downloaded and used the functions in a digital map on four occasions to perform work functions in which the operator:
 - established and identified Global Positioning System (GPS) coordinates on map
 - applied processes to orientate self in relation to map based on field observations
 - used map functions to determine distance, direction, travelling time and routes between locations on map
 - located, labelled and entered attribute data and notes on physical features, hazards and forestry assets on map
 - captured digital images of physical features, hazards and forestry assets and plotted on map
 - hid or surfaced layers to view data on map
- sourced, downloaded and extracted information from a forest operation plan on four occasions to perform work functions.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- types of digital maps:
 - general reference
 - topographical
 - thematic
 - cadastral maps and plans
- sources of digital maps:

- forest management companies
- government agencies
- commercial
- fundamental map reading skills:
 - title
 - coordinates
 - scale
 - legend
 - data frame
 - orientation
 - citation
- basic concepts of digital maps:
 - base map
 - layers – Light Detection and Ranging (LiDAR), satellite, aerial photograph
 - coordinates
 - vector vs raster spatial data
 - attribute data
 - file format
 - legend and symbology
- types of information contained on digital maps
- processes to download digital maps:
 - cloud storage services
 - emails
 - mobile applications
- processes to validate the data viewed on digital maps based on field observations
- forest operation plans:
 - purpose
 - intended users
 - format
 - information contained in forest operation plans
 - amendments
 - versions
 - key terms used in forest operation plan
 - processes to validate data in forest operation plan based on field observations.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:

- skills must be demonstrated in a forestry or plantation setting
- resources, equipment and materials:
 - mobile device
 - access to digital map application
 - access to digital map library
 - access to digital forest operation plan
- specifications:
 - access to work order or instruction detailing activities to be carried out by operator that require use of digital map and digital forest operation plan
 - access to workplace safety policies and procedures applicable to working in a forestry or plantation setting
 - access to workplace policies for acceptable use of mobile device
 - access to user manual for mobile device and technical instructions for use of digital map application.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3320 Build and maintain timber stacks

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to safely build and maintain timber stacks in a variety of workplace settings, according to regulations and site procedures.

The unit applies to sawmill workers, production workers or manufacturing assistants who undertake specified activities under the direction of more experienced workers

Licensing, legislative or certification requirements apply to this unit but may differ according to state or territory jurisdiction. Users are advised to check with the relevant regulatory authority.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to stack timber	1.1 Determine job requirements from work order or instructions and, where required seek clarification from appropriate person 1.2 Confirm safety requirements building and maintaining timber stacks according to workplace safety procedures 1.3 Identify risks and apply control measures to ensure safety of self

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>and others and avoid loss of materials</p> <p>1.4 Access traffic management plan to guide location of building timber stacks</p> <p>1.5 Select, fit and use personal protective equipment (PPE) and prepare safety equipment according to workplace requirements</p> <p>1.6 Communicate with others as required, to ensure safety requirements are met according to workplace procedures</p> <p>1.7 Identify personal limitations related to building a timber stack, and seek assistance as required, in accordance with workplace procedures</p>
2. Build timber stack	<p>2.1 Inspect timber to ensure it meets labelled or expected content, and report non-compliant material to supervisor, in accordance with workplace safety requirements</p> <p>2.2 Choose appropriate bearers to create required space for powered mobile plant to lift the stack</p> <p>2.3 Build the stack, check bearers and restrain timber in line with workplace requirements</p> <p>2.4 Manage maximum height of stack to suit environment and weather conditions and in accordance with industry safety standards and workplace requirements</p> <p>2.5 Identify problems and faults, and report to supervisor in accordance with workplace procedures</p>
3. Maintain timber stack	<p>3.1 Perform routine checks as stack is built and during life of stack, and report defects to appropriate personnel in accordance with workplace requirements</p> <p>3.2 Repair timber stack as required, in accordance with workplace procedures and scope of own job role</p> <p>3.3 Store, reuse, recycle or dispose of waste material in accordance with workplace and environmental requirements</p> <p>3.4 Complete workplace records and documentation according to workplace requirements</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Writing	<ul style="list-style-type: none"> Use industry terminology to accurately complete workplace records and reports
Oral communication	<ul style="list-style-type: none"> Use production terminology to accurately report on operational problems and non-compliant products to supervisor

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3320 Build and maintain timber stacks	FWPCOT3264 Build and maintain timber stacks	<p>Wording of Application and Performance Criteria updated</p> <p>Foundation Skills updated</p> <p>Volume added to Performance Evidence and wording updated and restructured</p> <p>Assessment Conditions updated</p>	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3320 Build and maintain timber stacks

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has safely built and maintained a minimum of four different timber stacks, and safely repaired faults in at least one timber stack.

In doing this, there must be evidence that the individual has:

- built stacks in accordance with traffic management plan, workplace safety and environmental procedures
- built stable and secure stacks protected from damage
- recorded and reported timber stack and fault information.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- workplace safety and environmental requirements, site standards and workplace policies and procedures for building and maintaining timber stacks
- procedures, methods and techniques for:
 - levelling and stabilising individual packs
 - determining ratio, grading, colour identification and tagging of stacked timber
 - monitoring and inspecting packs
 - identifying and repairing common faults in stacks
 - partially or fully rebuilding and restabilising stacks using restraints
 - verbal and non-verbal communication
 - recording and reporting workplace information
- factors essential to building and maintaining timber stacks:
 - width, length, height and weight of stack
 - duration of storage

- type and strength of timber
- type of lifting equipment
- ground condition and stability in terms of slope, evenness, contamination and drainage
- air-drying structure
- unexpected obstacles
- slippery or uneven surfaces
- pedestrians on or near the timber stack
- visibility
- ground strength to withstand the load of stacks and machinery
- location of walkways, pathways and stores
- top surface of ground
- location of stack, inside, outside, under cover, in the open
- storage area organisation
- machinery and equipment requirements
- weather conditions
- selecting and using types and length of bearers:
 - straight and structurally sound
 - identical in length in cross-section
 - not protruding from the stack
 - not shorter than the stack
 - good condition and laid flat
 - able to withstand the environment
 - checked for consistent thickness and shape
 - correctly positioned
- factors contributing to avoidable loss:
 - inadequate stack support and unstable stacking
 - packs that are not level
 - exposing the stack to adverse drying conditions
 - inadequate stack conditions (poor drainage, stacks close to ground)
 - inappropriate site layout
 - inadequate stack protection and pack damage
 - timber stacked too high
- key components of a traffic management plan relevant to timber stacking
- industry terminology relevant to building and maintaining timber stacks to communicate safety issues, confirm job requirements and report product and stack issues and defects
- use and maintenance of timber stacking tools and equipment:
 - powered mobile machinery equipment faults or damage
- workplace safety requirements relevant to building and maintaining timber stacks:
 - impact of fatigue, and fatigue management
 - hazard identification and risk management

- hazardous manual tasks
- erection of exclusion zones and signage
- personal protective equipment (PPE)
- environmental requirements for recycling and reusing material with faults and safely disposing of waste material.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a manufacturing or processing facility or timber yard or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - products to build and maintain four timber stacks
 - tools and equipment to build and maintain timber stacks
 - personal protective equipment
- specifications:
 - access to workplace safety and environmental policies and procedures applicable to building and maintaining timber stacks
 - access to work order and traffic management plan to build and maintain timber stacks
- relationships:
 - person to confirm work orders and report issues with building and maintaining timber stacks.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3321 Apply situational awareness and a safety mindset in operational forestry roles

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required for applying situational awareness and a safety mindset while performing operational forestry-related tasks in team situations or when working in isolated, remote or out-of-line-of-sight situations.

The unit applies to those who work in operator roles in the forestry industry.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

The prerequisite unit of competency for this unit is:

- FWPCOR3205 Apply safety, health and environmental requirements in forest and wood products operations

or

- FWPCOR2210 Follow workplace health and safety policies and procedures in forest and wood products operations.

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Work safely in	1.1 Follow safe work procedures and safety instructions from

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
forestry operations	supervisors for controlling risks identified in the work area 1.2 Observe workplace safety signage and other risk control measures 1.3 Demonstrate a safety mindset in performing all work activities 1.4 Confirm location and procedures for accessing personal protective equipment and first aid kit on site 1.5 Report unsafe work practices, incidents and accidents 1.6 Share learnings from incidents and near misses with other team members to improve workplace safety
2. Develop situational awareness in forestry operations	2.1 Scan the work environment to identify hazards and assess risks that may impact on the safety of self and others 2.2 Identify changes and developments in the work environment that may impinge on the safety of self and others 2.3 Anticipate what may happen as a result of changes and developments in the work environment, and take appropriate action according to workplace procedures
3. Communicate with team members	3.1 Communicate with and share information relevant to work with team members to enable safe and efficient completion of tasks 3.2 Share knowledge and skills with team members 3.3 Provide assistance and feedback to team members to ensure safe completion of tasks 3.4 Act upon feedback from team members to ensure safe completion of tasks 3.5 Facilitate communication with team members and others by using communications equipment that is suited to the work environment according to workplace procedures
4. Perform work in isolated, remote or out-of-line-of-sight situations	4.1 Follow work instructions and safety requirements for planned work 4.2 Follow work instructions to ensure that regular and pre-arranged voice or visual contact is maintained with other team members for duration of planned work 4.3 Complete risk assessment according to workplace procedures 4.4 Carry out work activities according to prescribed plans and procedures 4.5 Maintain situational awareness and report changes and

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	developments in work environment to appropriate person
5. Follow procedures for dealing with stress, remoteness and fatigue	<p>5.1 Comply with workplace procedures for reducing the workplace health and safety risks associated with fatigue, stress, drugs and alcohol, sleep deprivation and remoteness</p> <p>5.2 Follow workplace procedures for maintaining effectiveness and concentration under periods of stress and high workload</p> <p>5.3 Recognise personal physical and psychological limitations and request assistance to deal with difficult or abnormal situations</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Read routine workplace instructions and interpret workplace safety signage
Writing	<ul style="list-style-type: none"> Complete routine workplace forms for reporting unsafe work practices, incidents and accidents
Oral communication	<ul style="list-style-type: none"> Use appropriate vocabulary, including technical language, directly relevant to role
Numeracy	<ul style="list-style-type: none"> Interpret routine numerical and graphical information related to safe work operations

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3321 Apply situational awareness and a safety mindset in operational forestry roles	Not applicable	The unit has been created to address a skill or task required by industry that is not covered by an existing unit	Newly created

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3321 Apply situational awareness and a safety mindset in operational forestry roles

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has applied situational awareness and a safety mindset while working in an operational forestry role. Evidence must show that the individual has, on one occasion:

- demonstrated situational awareness when undertaking an operational task
- worked safely when undertaking an operational task
- effectively communicated with team members while undertaking an operational task
- safely performed work in an isolated, remote or out-of-line-of-sight situation
- followed workplace procedures for accessing first aid and safety equipment and dealing with stress, remoteness and fatigue.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- reasons for following safe work procedures
- features of a safety mindset:
 - safe use of equipment
 - awareness of surroundings
 - awareness of personal limitations
 - reporting problems
- hazards and associated risks in forestry operations
- types of risk control measures used in forestry operations
- principles of situational awareness:
 - show vigilance when approaching known hazards
 - identify potential problems from available information
 - monitor changes in work environment

- resolve uncertainty by seeking further information
- verify assumptions before proceeding with work activities
- principles of effective teamwork
- types and operation of electronic communication systems
- safe procedures for working in isolated, remote or out-of-line-of-sight situations
- characteristics of being fit for work
- reasons for reporting physically and psychologically fit for work
- signs of stress and fatigue in self and others
- techniques appropriate for operators for avoiding, reducing and coping with stress, remoteness and fatigue
- techniques for maintaining personal effectiveness and concentration under periods of stress and high workload
- techniques appropriate for operators for identifying personal limitations.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- skills must be demonstrated in a forestry work site or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - communications systems
- specifications:
 - work order or instruction detailing operational work to be performed
 - workplace health and safety policies and procedures applicable to operational work to be performed
 - workplace environmental protection policies and procedures applicable to operational work to be performed
 - workplace documentation for identifying, assessing and responding to risks and hazards in forestry operations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3322 Apply quality and product care procedures in forest and wood products operations

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to apply quality and product care procedures and monitor the quality of product output in the forest and wood products industry.

This unit applies to individuals working in a broad range of roles and operations in the forest and wood products industry in which there is a focus on applying quality procedures and monitoring product care.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to apply quality and product care procedures in forest or wood products operations	1.1 Review work order or instruction to determine job requirements, and where required check with appropriate personnel 1.2 Identify quality system requirements and workplace health and safety procedures, including use of personal protective equipment

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	(PPE), to be applied when performing work task 1.3 Inspect product visually before processing according to workplace procedures 1.4 Determine product specifications
2. Optimise resource recovery and product quality in forest or wood products operations	2.1 Plan product recovery to optimise resource value and minimise waste 2.2 Assess tree or timber species, structure, features and characteristics according to workplace procedures 2.3 Assess potential of materials to provide the highest value-added return 2.4 Grade materials and direct to best end-use according to industry standards and workplace procedures 2.5 Maintain and adjust machinery and equipment, as required to minimise waste, damage and risk of injury and accidents 2.6 Assess and rectify problems as they occur to avoid loss of product and/or reduction in product quality
3. Monitor and control quality of output in forest or wood products operations	3.1 Assess forest or wood products against quality and customer requirements and identify substandard products 3.2 Prepare forest or wood products for despatch in a manner that prevents or minimises damage 3.3 Record and report on matters related to quality and forest or wood product care according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Read manufacturer operating and safety instructions for machinery and equipment
Writing	<ul style="list-style-type: none"> Use industry terminology when completing quality and product care reports

Skill	Description
Oral communication	<ul style="list-style-type: none"> Establish and maintain communication with others in the workplace while inspecting products to ensure own safety and that of others
Numeracy	<ul style="list-style-type: none"> Estimate and measure products and compare them to specifications

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3322 Apply quality and product care procedures in forest and wood products operations	FWPCOR3202 Conduct quality and product care procedures	<p>Updated unit title</p> <p>Reworded Elements, Performance Criteria and Foundation Skills</p> <p>Minor changes to Knowledge Evidence</p> <p>Updated Assessment Conditions</p>	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3322 Apply quality and product care procedures in forest and wood products operations

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, for one work period/shift, the individual has identified and applied workplace quality requirements while performing personal work tasks related to a forest or wood products operation.

In performing this activity, the individual has:

- inspected product visually prior to processing
- optimised resource recovery and product quality during processing based on tree or timber species, structure, features and characteristics
- monitored, identified and resolved faults with product
- checked final products against quality and customer requirements
- prepared final products for despatch according to workplace quality and product care procedures.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- workplace procedures relating to forest or wood product quality and care specified in performance evidence:
 - communicating product requirements and outcomes of product review
 - identifying and resolving faults with product
 - recording and reporting workplace information
 - maximising product or resource use
 - assessing timber for recovery
- environmental protection requirements in forest or wood products operations:
 - safely disposing of waste material
 - organisational guidelines for recycling defective product, off-cuts and residue

- indicators of sub-standard product in forest or wood products operations:
 - breakages
 - contamination
 - holes
 - insect attack
 - machine-caused defects
 - variable surface finishes
 - timber colour
- mathematical procedures for estimating and measuring product against specifications
- ways of optimising resource value and minimising waste in forest or wood products operations
- requirements of the following quality systems that would apply to product care and quality in forest and wood products operations:
 - enterprise-based system
 - ISO9000 series
 - second party certification
 - third party certification
- specifications of the forest or wood products being processed
- types of tools and equipment used in the forest or wood product process, and procedures for their safe use and maintenance
- work health and safety policies and procedures relevant to forest or wood products operations:
 - PPE and clothing
 - safety equipment
 - eliminating hazardous materials and substances
 - first aid equipment
 - identifying hazards in the work process and assessing and controlling their risk
 - managing fatigue
 - manual handling techniques
 - machine isolation and guarding.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest or wood products work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - materials and equipment relevant to the work task being performed
 - PPE

- specifications:
 - order or instruction detailing work task to be carried out
 - workplace health and safety policies and procedures applicable to work task to be carried out
 - workplace environmental protection policies and procedures applicable to work task to be carried out
 - workplace quality requirements and procedures.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3323 Assess wood materials visually

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to visually assess the characteristics of wood materials, identify any defects and imperfections, and forward the materials for storage or further processing.

The unit applies to individuals who assess materials visually in the forest and wood products industry.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for visual assessment of wood materials	1.1 Determine job requirements from work order or instruction, and where required seek clarification from appropriate personnel 1.2 Confirm safety and environmental requirements for the task

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>according to workplace procedures</p> <p>1.3 Identify, assess and take actions to mitigate hazards and associated risks related to work task</p> <p>1.4 Identify and confirm material to be visually assessed</p> <p>1.5 Select and check operational effectiveness of tools and equipment required for visually assessing materials</p> <p>1.6 Identify options for processing materials following assessment</p>
2. Assess wood material visually	<p>2.1 Assess material visually against industry standards to identify the characteristics of the material and any defects</p> <p>2.2 Mark defects for treatment according to workplace procedures</p> <p>2.3 Record and report assessment outcomes</p>
3. Distribute wood material	<p>3.1 Forward materials for storage or further processing according to workplace procedures</p> <p>3.2 Dispose of, recycle or reuse sub-standard materials according to workplace procedures</p> <p>3.3 Monitor on-site movement of material according to workplace procedures</p> <p>3.4 Label material for storage according to workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Use technical language to describe material characteristics
Writing	<ul style="list-style-type: none"> Use routine text and technical terms in written materials assessment reports
Oral communication	<ul style="list-style-type: none"> Ask questions to clarify industry standards for materials to be assessed
Numeracy	<ul style="list-style-type: none"> Interpret numerical and graphical information related to production and wood flow planning

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3323 Assess wood materials visually	FWPCOR3204 Visually assess materials	Updated unit title Updated Application Statement Minor updates to Elements, Performance Criteria and Knowledge Evidence Updated Performance Evidence, Foundation Skills and Assessment Conditions	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3323 Assess wood materials visually

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has:

- assessed visually two different wood materials used in a forest or wood products operation against industry standards
- identified any defects and imperfections of the assessed wood material
- labelled and transferred assessed wood material to a storage facility or for further processing according to workplace procedures.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- industry standards and codes of practice related to the visual assessment of wood materials
- environmental protection requirements relevant to forest or wood products operations:
 - safe disposal of waste material
 - recycling and reuse of substandard materials
- workplace standards, policies and procedures relevant to visually assessing wood materials
- methods of visual estimation and assessment of wood materials
- typical wood material defects and characteristics
- treatment of wood materials for defects
- distribution processes for assessed wood materials
- storage systems and labelling used in forest or wood products operations
- types, safe use and maintenance of tools and equipment used for visually assessing wood materials
- procedures for recording and reporting workplace information.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest or wood products work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - wood materials for visual assessment
 - equipment and tools used in visual assessment of wood materials
- specifications:
 - workplace health, safety and environmental policies and procedures applicable to work task to be carried out
 - workplace quality requirements and procedures.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3324 Apply cultural heritage protection requirements in forest operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to identify and comply with cultural heritage, including Indigenous cultural heritage, protection requirements as specified in the forest operational plan and maps during forest operations.

The unit applies to individuals, including forestry workers, harvesting technicians and machine operators, who work in forest operations and are subject to legislative, contractual and negotiated cultural heritage protection requirements.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Identify cultural heritage protection	1.1 Identify workplace policies and procedures on cultural heritage

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
requirements applicable to forest operations	<p>protection</p> <p>1.2 Identify legislative, regulatory and contractual requirements for cultural heritage protection</p> <p>1.3 Identify partnership arrangements and agreements with Indigenous communities and agencies, government departments and agencies and other organisations for protection of cultural heritage</p> <p>1.4 Identify aspects of cultural heritage, including Indigenous cultural heritage, shown in the forest operational plan and maps</p>
2. Apply cultural heritage protection requirements while undertaking forest operations	<p>2.1 Review work order or instruction, identify work task, including requirement to comply with cultural heritage protection measures, and where necessary check with appropriate personnel</p> <p>2.2 Locate cultural heritage, including Indigenous cultural heritage, sites and/or objects in and near the work site, as shown in the forest operational plan and maps</p> <p>2.3 Identify and report risks to cultural heritage sites stemming from forestry operations</p> <p>2.4 Apply requirements for establishing protection zones and deploying signage, field markings and equipment for cultural heritage protection</p> <p>2.5 Carry out cultural heritage protection measures according to workplace procedures and legislative requirements</p> <p>2.6 Identify situations involving cultural heritage protection requiring specialist advice, and seek assistance</p>
3. Monitor work activities for compliance with cultural heritage protection requirements	<p>3.1 Monitor and adjust work practices and activities to meet cultural heritage protection requirements</p> <p>3.2 Monitor and maintain cultural heritage protection measures</p> <p>3.3 Identify and report work practices and activities that do not comply with cultural heritage protection requirements to appropriate personnel</p> <p>3.4 Identify and make recommendations on ways of improving work practices and activities to ensure compliance with cultural heritage protection requirements</p> <p>3.5 Record all instances of non-compliance with cultural heritage protection requirements and report to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extract key information from workplace documents on cultural heritage protection requirements
Writing	<ul style="list-style-type: none"> Take notes on cultural heritage protection requirements related to own scope of work
Oral communication	<ul style="list-style-type: none"> Use questioning and active listening to clarify workplace procedures for cultural heritage protection
Numeracy	<ul style="list-style-type: none"> Apply numerical skills to estimate distance from own work location and cultural heritage sites and/or objects in and near the work site

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3324 Apply cultural heritage protection requirements in forest operations	FWPCOT3257 Follow cultural heritage requirements	Changed title Reworded Elements and Performance Criteria Updated Knowledge Evidence and Performance Evidence Reworded Foundation Skills Updated Assessment Conditions	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3324 Apply cultural heritage protection requirements in forest operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has applied cultural heritage protection requirements while performing personal work tasks related to a forestry operation in a forest or plantation setting.

In performing this activity, the individual has:

- identified requirements for cultural heritage protection and partnership arrangements for protection of cultural heritage
- located cultural heritage values as shown in the forest operational plan and maps
- reported cultural heritage site risks as a result of forestry operations to appropriate personnel
- established cultural heritage protection zones according to workplace procedures
- sought specialist advice for applying compliant cultural heritage protection measures.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- legislation, regulations, standards, codes of practice, contractual arrangements and partnership agreements for implementing and monitoring cultural heritage protection measures related to forest operations
- workplace standards, requirements, policies and procedures on cultural heritage protection that apply to forest operations
- definition and components of cultural heritage in forest operations:
 - tangible culture such as buildings, monuments, landscapes, books, works of art and artefacts
 - intangible culture such as folklore, traditions, language and knowledge
 - natural heritage, including culturally significant landscapes and biodiversity

- distinction between cultural heritage and Indigenous cultural heritage
- the importance of Indigenous cultural heritage, including:
 - any place or object of significance to Indigenous people because of their traditions, observances, lore, customs, beliefs and history, including:
 - sacred sites
 - ceremonial sites
 - burial sites
 - rock art and engravings
 - ochre pits
 - scatter sites
 - scarred or carved trees
 - stone arrangements or bora rings
 - stone tool manufacture and grinding sites
 - artefacts
 - massacre sites
- key stakeholders engaged in protection of cultural heritage, including:
 - Indigenous organisations
 - government departments and agencies
 - land owners
 - forestry companies
 - other community organisations
- work practices and procedures for protecting cultural heritage sites and objects, including protection zone requirements, in forest operations
- work practices and activities that comply and do not comply with cultural heritage protection requirements in forest operations
- consequences of non-compliance with cultural heritage protection requirements in forest operations
- procedures for reporting non-compliance with cultural heritage protection requirements.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - tools, machinery, equipment and materials required to undertake job requirements specified in work order or instruction
 - forest operational plan and maps identifying location of cultural heritage, including Indigenous cultural heritage, sites and/or objects in and near the work site
 - signage, field markings and equipment for cultural heritage protection

- personal protective equipment
- specifications:
 - work instruction identifying job requirements and requirements to comply with cultural heritage protection requirements
 - workplace health, safety and environment policies and procedures applicable to work task to be carried out
 - workplace procedures for cultural heritage protection.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3325 Operate four wheel drive vehicle on unsealed roads

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the outcomes required to safely operate a four wheel drive vehicle on unsealed roads.

The unit applies to individuals who operate four wheel drive vehicles in a variety of work settings and industry sectors, including forestry, agriculture, construction, tourism and energy.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

Individuals must hold a driver licence or a provisional driver licence prior to commencing this unit of competency.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for operations	1.1 Access, interpret and apply vehicle manufacturer information relevant to operating a four wheel drive vehicle on unsealed roads 1.2 Identify the structural and handling differences between a

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	conventional two wheel drive vehicle and a four wheel drive vehicle 1.3 Determine type of operation and ensure safe operating conditions 1.4 Identify, fit and use suitable personal protective equipment 1.5 Perform pre-start checks 1.6 Establish and check communication with others, including convoy procedures 1.7 Secure loads according to safety, environmental and regulatory requirements 1.8 Research weather and topography for a planned trip on unsealed roads
2. Operate vehicle on unsealed roads	2.1 Check and change tyre pressure suitable for unsealed road according to workplace procedures 2.2 Continually monitor the track to identify hazards, assess risks and select the best route according to safety and environmental requirements 2.3 Identify situations where the engagement of four wheel drive is required and engage front hubs or centre differential lock where fitted 2.4 Use range, gear, speed, driving and braking technique appropriate to surface conditions while maintaining control of vehicle at all times 2.5 Check brake operation and undercarriage after operating vehicle on unsealed road conditions 2.6 Park and shut down vehicle
3. Ascend and descend slopes less than 15 degrees	3.1 Inspect intended vehicle path before negotiation of slope 3.2 Use appropriate range, gear, speed, driving and braking technique to negotiate a slope while maintaining control of vehicle 3.3 Use appropriate braking methods, user applied and vehicle controlled function, where fitted, to descend a slope 3.4 Maintain traction and minimise wheel spin 3.5 Apply appropriate automatic and manual techniques when vehicle cannot proceed any further on a slope
4. Complete operation	4.1 Conduct a post-trip inspection of vehicle 4.2 Complete post-trip documentation, including maintenance and minor repairs reports

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Read and comprehend basic factual information on four wheel drive vehicle equipment labels and in manufacturer manuals
Writing	<ul style="list-style-type: none"> Complete workplace forms using required format, industry terminology and structure
Oral communication	<ul style="list-style-type: none"> Use effective verbal communication techniques to convey instructions to people involved in four wheel drive operation
Numeracy	<ul style="list-style-type: none"> Estimate time of a journey and fuel consumption

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3325 Operate four wheel drive vehicle on unsealed roads	FWPCOT3259 Operate a four wheel drive on unsealed roads	Updated unit title Updated Elements and Performance Criteria Updated and added new Knowledge Evidence and Performance Evidence Reworded Foundation Skills Updated Assessment Conditions	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3325 Operate four wheel drive vehicle on unsealed roads

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has performed each of the following tasks while driving a four wheel drive vehicle on unsealed roads:

- driven three separate ascents and three separate descents less than 15 degrees. In conducting this task, the individual has:
 - selected appropriate range and gearing
 - used foot brake effectively to control descent speed
 - used vehicle hill descent or similar function where available
 - used the most appropriate wheel placement
- used on one occasion traction aids and brakes when driving ascents and descents less than 15 degrees
- performed on two occasions a forward and a reverse stop start recovery on an incline according to the type of transmission
- demonstrated on one occasion the setting of vehicle controls for operation on unsealed roads. This may include:
 - the use of free wheel hubs if fitted
 - selection of low range in either manual or automatic vehicles
 - use of terrain selection system if fitted
 - use of differential locks if fitted
 - activation of traction control or terrain selection mode if fitted and where effective
- driven vehicle and operated vehicle controls and technology to avoid traction loss on unsealed roads in three of the following conditions:
 - loose gravel
 - ruts
 - loose material in centre and sides of track
 - corrugations

- mud
- rocky
- sand
- snow
- side slopes
- rutted
- water crossing
- fitted and used personal protective equipment (PPE).

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- structural differences between conventional two wheel drive and a four wheel drive, including:
 - purpose and use of front wheel hubs
 - factors affecting tyre selection and pressure
- environmental protection requirements affecting four wheel drive operations
- common unsealed road surface hazards:
 - loose gravel
 - ruts
 - loose material in centre and sides of track
 - corrugations
- pre-start checks for four wheel drive vehicle
- types of communication equipment, including:
 - personal location beacon (PLB)
 - phone
 - radio
 - vehicle/personnel tracking devices
- safe operating conditions for a four wheel drive vehicle:
 - interpreting weather conditions to determine suitability for driving
 - selecting routes to minimise damage to the environment
 - visibility
 - loading of four wheel drive, including techniques to reduce overloading
 - braking techniques
 - cornering techniques
- types of environmental risks and hazards associated with operating a four wheel drive vehicle on unsealed roads, including:
 - rocks and other unexpected obstacles
 - damage to vehicle
 - animals and objects in vehicle path

- slippery surfaces
- overhead tree limbs
- other vehicles
- fallen trees, limbs and logs
- flood
- poor visibility
- tyre pressure management principles for varying terrain types
- principles for effective self-recovery of vehicle via driving skills (not the use of recovery equipment such as straps or winches)
- communication channels and protocols
- techniques for travelling in convoy
- procedures for recording and reporting workplace information.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - site with access to unsealed roads
 - manual or automatic four wheel drive vehicle or all-wheel drive vehicle
 - PPE required for operating a four wheel drive on unsealed roads
 - relevant personnel for the purposes of communicating information
- specifications:
 - workplace safety and environmental policies and procedures applicable to forestry operations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3326 Recover four wheel drive vehicle

Modification History

Release	Comments
Release 2	This version released with Forest and Wood Products Training Package Version 8.0.
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to use recovery equipment to recover four wheel drive vehicles in difficult terrain conditions.

The unit applies to individuals who recover four wheel drive vehicles in a variety of work settings and industry sectors, including forestry, agriculture, construction, tourism and energy.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

Individuals must hold a driver licence or a provisional driver licence prior to commencing this unit of competency.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Identify loads, ratings	1.1 Determine the Gross Vehicle Mass (GVM) and estimate the

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
and equipment serviceability related to four wheel drive vehicle recovery	<p>recovery load on the vehicle using a recognised formula</p> <p>1.2 Identify the rating and labelling of recovery gear</p> <p>1.3 Identify rated recovery points on a vehicle</p> <p>1.4 Determine the appropriate equipment to be used given the GVM, estimated recovery load and the equipment rating</p> <p>1.5 Determine serviceability of recovery equipment required for task</p>
2. Plan recovery	<p>2.1 Identify and follow work health and safety procedures, including selection and use of personal protective equipment relevant to recovery operations</p> <p>2.2 Identify, assess and take actions to mitigate risks and hazards associated with recovery operations</p> <p>2.3 Identify and implement workplace environmental protection procedures associated with recovery operations</p> <p>2.4 Identify emergency procedures to follow in the event of accident or incident</p> <p>2.5 Locate and survey site to determine recovery strategy and establishment of an exclusion zone</p> <p>2.6 Inform appropriate personnel of location of vehicle to be recovered and recovery strategy</p>
3. Perform kinetic rope or strap recovery	<p>3.1 Establish and maintain communications with appropriate personnel during recovery operation</p> <p>3.2 Establish when and by what means to start and stop the recovery</p> <p>3.3 Lay out the kinetic rope/strap prior to recovery</p> <p>3.4 Fit the kinetic rope/strap to an approved recovery point/device that is suitably rated for use with the strap</p> <p>3.5 Demonstrate the joining of two kinetic ropes and/or straps</p> <p>3.6 Identify where to place dampeners</p> <p>3.7 Perform a safe recovery using the kinetic rope/strap</p>
4. Perform winch recovery	<p>4.1 Establish and maintain communications with appropriate personnel during recovery operation</p> <p>4.2 Establish when and how to start and stop the recovery</p> <p>4.3 Lay out all the equipment to be used, including the dampeners</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	4.4 Perform winch recovery using a single line pull 4.5 Perform winch recovery using a double line pull using a snatch block or pulley ring 4.6 Perform winch recovery using a change of direction pull using a snatch block or pulley ring
5. Use other recovery tools and equipment	5.1 Use a spade for vehicle recovery 5.2 Use traction boards for vehicle recovery
6. Maintain vehicle recovery equipment	6.1 Clean, carry out operator maintenance, check serviceability and store recovery equipment after use according to manufacturer requirements 6.2 Record equipment maintenance according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret basic factual information on tool and equipment labels and in manufacturer manuals
Writing	<ul style="list-style-type: none"> Complete workplace forms using required format, industry terminology and structure
Oral communication	<ul style="list-style-type: none"> Use effective verbal communication techniques to convey instructions to people in vicinity location of recovery operation
Numeracy	<ul style="list-style-type: none"> Apply numeric skills to check rating of recovery equipment

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status

FWPCOT3326 Recover four wheel drive vehicle Release 2	FWPCOT3326 Recover four wheel drive vehicle Release 1	Minor edits to Performance Evidence for providing clarification	Equivalent
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Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
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Assessment Requirements for FWPCOT3326 Recover four wheel drive vehicle

Modification History

Release	Comments
Release 2	This version released with Forest and Wood Products Training Package Version 8.0.
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has:

- performed two kinetic rope and/or strap recoveries
- performed one of each of the following winch recoveries:
 - single line
 - double line
 - change of direction.

In conducting each of the above tasks, the individual has:

- estimated the recovery load using a recognised formula
- determined the Gross Vehicle Mass (GVM) of the vehicle/s in the recovery
- determined the rating of the equipment being used
- determined the most appropriate recovery strategy to be used
- assessed why the vehicle is bogged, taken action to ensure vehicle is in four wheel drive, taken action to clear obstructions from the vehicle, taken action to use traction boards where available, determined safest method of recovery if straps or winches are to be used
- determined the appropriate equipment to be used given the GVM, equipment rating and chosen strategy.

There must also be evidence that on one occasion the individual has joined two kinetic ropes and/or straps.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- safety procedures during recovery operations
- recognised formula used to estimate the recovery load and what variables apply to this formula
- reasons and procedures for establishing exclusion zone
- Gross Vehicle Mass (GVM):
 - identifying which vehicle's GVM should be used in relation to kinetic recovery
- ratings used on recovery equipment:
 - MBS (Minimum Breaking Strength) of ropes, straps and soft shackles
 - WLL (Working Load Limit) of hard shackles
 - drag chains
 - pulley blocks
 - pulley rings
 - winches (wire and/or rope)
- anchor point selection
- number, location and weighting of strap dampeners
- rated recovery points:
 - characteristics and purpose of rated recovery points
 - location of rated recovery points
 - what is and what is not a rated recovery point
- kinetic recovery:
 - kinetic recovery procedure
 - manufacturer recommendations on recovery techniques and equipment
- winches:
 - types, main components, ratings and manufacturer recommendation for use
 - effect of the layers of wrap of rope or wire on a winch drum
 - effects of a ring or snatch block on the load on a winch
 - impact of angle of rope or cable on recovery operation
 - procedures for easing the load on a winch
 - the reasons for not driving while winching
- maintenance of recovery gear:
 - straps/ropes
 - winches.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a work environment or an environment that accurately represents workplace conditions
 - work environment must include varied terrains and conditions from which to recover vehicle
- resources, equipment and materials:
 - four wheel drive to recover
 - rated recovery equipment for four wheel drive vehicle
 - relevant personnel for the purposes of communicating information
 - personal protective and safety equipment required for recovering a four wheel drive vehicle
- specifications:
 - workplace safety and environmental policies and procedures applicable to the recovery of four wheel drive vehicle.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3327 Contribute to energy efficiency in the forest and wood products industry

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to apply energy efficient work practices and contribute to improved energy use in the forest and wood products industry.

The unit applies to individuals working in a broad range of roles and operations in all sectors of the forest and wood industry.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Identify the importance of energy efficiency in forest or	1.1 Access workplace energy efficiency policies and procedures 1.2 Identify benefits of energy efficiency to the forest and wood

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
wood products operations	products industry 1.3 Apply life-cycle analysis to compare benefits of using wood products to other materials and promote outcomes to internal and external clients
2. Apply energy efficient work practices in forest or wood products operations	2.1 Follow workplace energy efficiency policy and procedures, including those related to recycling and waste management 2.2 Monitor own work practices to optimise energy efficiency
3. Identify opportunities to reduce energy use in forest or wood products operations	3.1 Participate in workplace reviews of energy use 3.2 Identify ways of improving energy efficiency in the workplace and report to appropriate personnel

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Read industry literature on innovative energy efficiency policies, procedures and work practices
Writing	<ul style="list-style-type: none"> Complete forms and surveys related to energy use in the workplace
Oral communication	<ul style="list-style-type: none"> Apply effective oral communication skills to inform colleagues and respond to questions about energy efficiency
Numeracy	<ul style="list-style-type: none"> Interpret basic graphical information to monitor energy use in the workplace

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status

<p>FWPCOT3327 Contribute to energy efficiency in the forest and wood products industry</p>	<p>FWPCOT3263 Maintain and contribute to energy efficiency</p>	<p>Updated unit title Reviewed Application Statement Reworded Elements and Performance Criteria Updated Foundation Skills Updated Knowledge Evidence Updated Performance Evidence and Assessment Conditions</p>	<p>Equivalent</p>
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Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3327 Contribute to energy efficiency in the forest and wood products industry

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has:

- applied two different energy efficient work practices in performing routine work tasks related to forest or wood products operations
- participated in one workplace review of energy use and made one suggestion for improving energy efficiency in the workplace.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- workplace standards, requirements, policies and procedures on energy efficiency that are applicable to forest or wood products operations
- environmental protection requirements related to forest or wood products operations, including the safe disposal of waste material and workplace recycling, recovery and waste management procedures
- workplace communication channels, protocols and procedures used in forest or wood products operations
- life cycle analysis of forest and wood products
- benefits of forest and wood products compared to other materials in terms of energy efficiency
- strategies for communicating the benefits of wood products over other materials to internal and external clients.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest and wood products industry workplace or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - industry literature on energy use, energy efficiency and energy efficient work practices
- specifications:
 - workplace environmental policies and procedures applicable to energy use and efficiency in the workplace
 - workplace procedures on energy use and energy efficient work practices.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3328 Operate four wheel drive vehicle in a towing situation

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to tow a trailer using a four wheel drive vehicle.

The unit applies to individuals who operate four wheel drive vehicles in towing situations in a variety of work settings and industry sectors, including forestry, agriculture, construction, tourism and energy.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

Individuals must hold a driver licence or a provisional driver licence prior to commencing this unit of competency.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for towing	1.1 Confirm four wheel drive vehicle is operational, appropriate for the conditions and has the required towing capacity

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.2 Check trailer compliance with safety regulatory requirements</p> <p>1.3 Check condition of trailer, suitability of trailer and coupling for use on rough terrain and braking system of trailer if required</p> <p>1.4 Check compatibility of trailer and four wheel drive vehicle for towing operations, including ground clearance and GCM (Gross Combined Mass) of trailer and vehicle</p> <p>1.5 Inspect and secure load onto trailer in accordance with safety and regulatory requirements</p> <p>1.6 Identify and follow safety, environmental and legal requirements relevant to towing a trailer with a four wheel drive vehicle</p> <p>1.7 Identify, fit and use suitable personal protective equipment</p> <p>1.8 Identify, select and check serviceability and rating of equipment required to carry out towing operations</p> <p>1.9 Identify, assess and take actions to mitigate risks and hazards associated with towing operations</p>
2. Use four wheel drive vehicle to tow a trailer	<p>2.1 Couple and uncouple trailer in accordance with safety requirements</p> <p>2.2 Apply safe four wheel driving skills while towing a trailer on sealed and unsealed road conditions</p> <p>2.3 Demonstrate safe braking procedures while towing a trailer on sealed and unsealed road conditions, including performing emergency stop</p> <p>2.4 Park four wheel drive vehicle and trailer</p>
3. Perform post-towing tasks	<p>3.1 Carry out inspection of vehicle and equipment following the towing operation</p> <p>3.2 Record and report activity and damage to vehicle or equipment as required</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Read and comprehend basic factual information on road signs and in manufacturer manual
Writing	<ul style="list-style-type: none"> Complete workplace forms using required format and industry terminology
Oral communication	<ul style="list-style-type: none"> Use effective verbal communication and questioning techniques to convey information to other people involved in or observing towing operation
Numeracy	<ul style="list-style-type: none"> Measure, estimate and calculate weight and dimensions of trailer and load to be towed

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3328 Operate four wheel drive vehicle in a towing situation	FWPFGM3214 Operate a four wheel drive vehicle in a towing situation	Reworded Application Statement Updated Elements and Performance Criteria Updated and added new Knowledge Evidence and Performance Evidence Reworded Foundation Skills Updated Assessment Conditions	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3328 Operate four wheel drive vehicle in a towing situation

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on one occasion, the individual has:

- correctly coupled and uncoupled a trailer to the towing vehicle
- performed the following tasks while operating a four wheel drive vehicle to tow a trailer on an unsealed road according to regulatory requirements:
 - driving forwards
 - reversing in a straight line
 - reversing around a corner
 - reversing into a parking bay
- conducted an emergency stop on an unsealed road while operating a four wheel drive vehicle with a trailer attached.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- regulations, standards, codes of practice and established safe practices relevant to processes when towing a trailer with a four wheel drive vehicle
- risks and hazards associated with towing a trailer or other type of object with a four wheel drive vehicle related to:
 - load
 - vehicle capacity, condition and faults
 - trailer capacity, condition and faults
 - weather and environmental conditions
 - natural hazards
 - road or surface conditions and obstructions

- working in proximity to a trailer
- crush injuries
- risk management strategies:
 - appropriate vehicle and trailer clearance
 - correct load management
 - controlled braking methods using electric brakes, no brakes, override brakes
 - adequate movement of the tow system
 - making adjustment for extra length and width of trailers, and their tendency to ‘cut in’ on corners and curves
 - engaging a lower gear when travelling downhill with a trailer to give greater vehicle control and reduce load on brakes
 - ensuring mirrors on both sides of towing vehicle are properly adjusted to give a clear view of vehicles approaching from the rear
 - safe work practices
- equipment suitable for towing
- four wheel driving and towing techniques:
 - dealing with and avoiding trailer sway
 - changing trailer wheel
 - parking vehicle with trailer attached
- tools and equipment used when setting up and securing a trailer
- fitted and used personal protective equipment (PPE).

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - site with varying terrain
 - manual or automatic four wheel drive vehicle
 - trailer to tow that includes a suitable load
 - PPE required for operating a four wheel drive on unsealed roads
 - relevant personnel for the purposes of communicating information
- specifications:
 - workplace safety and environmental policies and procedures applicable to the use of four wheel drive vehicles in towing situations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3329 Perform complex four wheel drive operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to safely operate four wheel drive vehicles in difficult terrain. Difficult terrain has surface conditions that include frequent steeps and/or rocks, slippery or sandy track sections, and including possible water crossings.

The unit applies to individuals who operate four wheel drive vehicles in a variety of work settings and industry sectors, including forestry, agriculture, construction, tourism and energy.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

Individuals seeking to undertake this unit should have prior experience in operating four wheel drive vehicles on unsealed surfaces.

Individuals must hold a driver licence or a provisional driver licence prior to commencing this unit of competency.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for complex	1.1 Identify and assess types of trip and terrain being accessed for safe

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
four wheel drive operations	operating conditions 1.2 Check vehicle for suitability for the task 1.3 Identify and check operation of suitable communication equipment and protocols in the event of misadventure 1.4 Identify, fit and use suitable personal protective equipment 1.5 Secure loads according to safety, environmental and regulatory requirements 1.6 Ensure emergency rations food/water and clothing are carried
2. Operate vehicle in steep terrain	2.1 Assess the steep terrain and determine what may cause loss of traction 2.2 Perform steep ascent and descent using appropriate driving methods 2.3 Perform forward and reverse stop start recovery on an incline according to the type of transmission 2.4 Set vehicle controls according to manufacturer specifications
3. Operate vehicle over difficult terrain	3.1 Assess difficult terrain 3.2 Select appropriate wheel placement 3.3 Negotiate difficult terrain using vehicle's traction aids 3.4 Identify impact that wet weather or wet tracks will have on driving style 3.5 Set vehicle controls according to manufacturer specifications 3.6 Check vehicle for damage after driving
4. Operate vehicle through water crossing	4.1 Assess the water crossing 4.2 Identify wading depth of vehicle according to manufacturer specifications 4.3 Identify vulnerable mechanical aspects of the vehicle and prepare the vehicle for water crossing 4.4 Select appropriate range and gear and other traction aids for the water crossing 4.5 Perform water crossing by maintaining steady constant speed 4.6 Drain water from vehicle back into water crossing 4.7 Dry brakes after water crossing

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
5. Perform post-trip tasks	5.1 Notify relevant personnel of trip completion 5.2 Complete post-trip inspection of vehicle 5.3 Record and report any repairs or replacement or damaged items to relevant personnel

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret basic factual information on road signs and in manufacturer manual
Writing	<ul style="list-style-type: none"> Complete workplace forms using required format, industry terminology and structure
Oral communication	<ul style="list-style-type: none"> Use effective verbal communication techniques and questioning to convey information to passengers
Numeracy	<ul style="list-style-type: none"> Estimate distances, travelling times, fuel volume and consumption and speeds

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3329 Perform complex four wheel drive operations	FWPFGM3215 Perform complex four wheel drive operations	Updated Elements and Performance Criteria Updated and added new Knowledge Evidence and Performance Evidence Reworded Foundation Skills Updated Assessment	Not equivalent

		Conditions	
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Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3329 Perform complex four wheel drive operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has:

- assessed three separate ascents and three separate descents greater than 15 degrees for the safest route and the most appropriate wheel placement
- driven three separate ascents and three separate descents greater than 15 degrees, having selected appropriate range and gearing and using the most appropriate wheel placement
- used traction aids and/or brakes when driving ascents and descents greater than 15 degrees on one occasion
- performed a forward and a reverse stop start recovery on an incline according to the type of transmission on two occasions
- demonstrated the setting of vehicle controls for operation in complex terrain on one occasion. This must include:
 - the use of free wheel hubs, if fitted
 - selection of low range in either manual or automatic vehicles
 - use of differential locks, if fitted
 - activation of traction control or terrain selection mode, if fitted and where effective
- driven vehicle in difficult terrain and operated vehicle controls and technology to avoid traction loss in three of the following conditions:
 - mud
 - rocky
 - sand
 - side slopes
 - rutted
- completed two water crossing of at least axle depth
- recorded and reported repairs or replacement or damaged items on two occasions
- fitted and used personal protective equipment (PPE).

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- four wheel drive systems:
 - differences between four wheel drive, two wheel drive and all-wheel drive vehicles
 - types and operating principles of different four wheel drive systems
- planning trips
- sources of information for weather forecasts and road/track conditions:
 - water and food requirements for trip
 - emergency communication methods
 - first aid and first aid kit
- procedures for:
 - pre-departure vehicles check
 - track assessment
 - wheel placement over rutted, broken ground
 - using traction aids
 - driving ascents and descents greater than 15 degrees
 - performing a safe stop and start forward down a slope (greater than 15 degrees) and in reverse down a slope in manual or automatic vehicle
 - performing a water crossing of at least axle depth
 - driving in loose ground such as mud and sand
 - vehicle shutdown
- vehicle selection for complex four wheel drive activity:
 - high and low range or similar capability
 - requirement for wading depth according to manufacturer specifications
 - types, purpose and use of traction aids
 - types and uses of tyres for complex four wheel drive activity
 - impact of tyre pressure on traction
 - Gross Vehicle Mass (GVM) or Gross Vehicle Weight (GVW)
 - impact of loading and accessories on GVM or GVW
- type and use of personal protective equipment required for complex four wheel drive activity
- type of emergency equipment used in complex four wheel drive activity
- type and use of communications equipment used in remote locations
- purpose and procedures for securing loads
- types of road surfaces and impact on traction when ascending or descending steep slopes
- impact of wet weather on track conditions
- environmental impact of four wheel drive use on wet unsealed roads
- techniques for four wheel driving in difficult terrain
- reasons and procedure for post-trip vehicle inspection

- water crossings:
 - assessment of water crossings, including water base, water depth, flow rate and debris
 - vulnerable aspects of vehicle when completing water crossings
 - environmental impact of water crossings.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - site with access to a water crossing and difficult terrain with safe entry into and out of a waterway, shallow run-ins and a firm base. Simulated water crossings are acceptable for assessment if no suitable crossing is available due to little or no water level or flooded and unsafe to cross
 - manual or automatic four wheel drive vehicle with a low range transmission or equivalent
 - PPE required for operating a four wheel drive in difficult conditions and waterways
- specifications:
 - workplace safety and environmental policies and procedures applicable to the use of four wheel drive vehicles in difficult conditions and waterways.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3330 Apply tree jacking techniques in felling trees

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to use tree jacking techniques in the process of felling trees 180 degrees away from their natural direction of fall using purpose-built tree jacks.

The unit applies to individuals whose job role involves using tree jacking techniques in the process of felling trees.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for tree jacking	1.1 Determine job requirements from work order or instruction, and where required seek clarification from appropriate personnel 1.2 Identify type and quantity of trees to be tree jacked and assess

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>activities for safety and environmental protection practices</p> <p>1.3 Confirm safety and environmental requirements for the task, including the use of personal protective equipment (PPE), according to workplace procedures</p> <p>1.4 Identify, assess and take actions to mitigate risks and hazards associated with tree jacking operations</p> <p>1.5 Identify emergency and evacuation procedures to follow in the event of an incident or accident</p> <p>1.6 Consult with appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.7 Select tools, equipment, communication systems and materials for tree jacking, and check for serviceability according to workplace procedures</p>
2. Plan tree jacking	<p>2.1 Assess environmental conditions and use outcomes to plan felling of each tree</p> <p>2.2 Monitor location and movement of other personnel, and modify work to ensure safety</p> <p>2.3 Assess tree, location and stability for conditions likely to affect safety of tree jacking activities</p> <p>2.4 Visually assess tree for defects, grade and recovery status</p> <p>2.5 Select escape route, and clear route and growth around tree manually or mechanically</p> <p>2.6 Assess fall direction and allowable degree of error, considering hang ups, damage, extraction constraints and available open space</p> <p>2.7 Plan cutting sequence to control direction of fall and minimise damage to tree and surrounding environment</p> <p>2.8 Mark trees too dangerous to fell safely and refer to appropriate personnel</p> <p>2.9 Confirm chain of command for communication of information and instructions to ensure safety of tree jacking operation</p>
3. Tree jack trees	<p>3.1 Complete equipment pre-start-up checks</p> <p>3.2 Remove and clear leaders according to tree jacking work plan</p> <p>3.3 Diagnose unexpected characteristics of tree and review tree jacking work plan</p> <p>3.4 Make jacking slots to provide for placement of tree jacks</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>according to planned falling direction</p> <p>3.5 Adjust cutting technique and use tree jacks to control movement and direction of tree being felled</p> <p>3.6 Complete felling and use planned safe exit route according to safety procedures</p> <p>3.7 Monitor ground movement of trees and assess and clear trees that hang up</p> <p>3.8 Record and report tree jacking process and equipment faults to appropriate personnel</p>
4. Complete chainsaw and tree jack operator maintenance	<p>4.1 Follow workplace safety procedures to lock out equipment</p> <p>4.2 Check chain for bluntness or damage</p> <p>4.3 Remove, sharpen, adjust and replace chain and other components according to manufacturer recommendations</p> <p>4.4 Assess and adjust chainsaw set-up to suit cutting conditions</p> <p>4.5 Maintain operational condition of chainsaw to meet standards prior to use</p> <p>4.6 Check and service tree jacks according to manufacturer recommendations</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Read routine, familiar workplace documents, including workplace health and safety procedures, work plans and manufacturer manuals
Writing	<ul style="list-style-type: none"> Complete basic written reports on tree jacking process and equipment faults
Oral communication	<ul style="list-style-type: none"> Ask questions and apply active listening skills to clarify contents of work plans Provide clear, unambiguous verbal directions to others about

Skill	Description
	jacking and felling process to ensure safety of self and others
Numeracy	<ul style="list-style-type: none"> Perform estimations and basic calculations related to number, time, length and diameter of trees

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3330 Apply tree jacking techniques in felling trees	FWPHAR4201 Apply tree jacking techniques	Revised title Updated Application Statement Minor changes to Elements and Performance Criteria Updated Performance Evidence Minor change to Knowledge Evidence Updated Assessment Conditions	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3330 Apply tree jacking techniques in felling trees

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has prepared, planned and applied tree jacking techniques on two trees according to work order and workplace and safety procedures.

In performing this activity, the individual has:

- assessed type, quantity and characteristics of trees to be jacked, as well as terrain and environmental conditions, to plan fall direction and take actions to mitigate risks and hazards
- made jacking slots, used tree jacks and fell trees using planned safe escape route according to safety procedures
- reported tree jacking process and equipment faults to appropriate personnel
- performed operator maintenance on a chainsaw on one occasion
- followed safety and environmental protection requirements for the task, including the use of personal protective equipment (PPE).

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- key features of environmental conditions and effects on tree felling:
 - general forest lean
 - ground growth
 - ground hazards and obstacles
 - ground slope
 - gullies
 - presence and density of seed and habitat trees
 - water courses
 - wet and adverse weather conditions

- wind speed and direction
- environmental protection practices:
 - safe disposal of waste material
 - cleaning of plant, tools and equipment
- typical tree defects and how these affect tree jacking and felling:
 - stability
 - insect defects
 - knots
 - resin pockets
 - shakes
- techniques used in the tree jacking process:
 - tree jacking
 - chainsaw cutting sequences and techniques used to control direction of fall
 - clearing trees that hang up
- communication methods used for tree jacking activities:
 - verbal
 - hand signals
 - eye contact with other operators
 - use of electronic communication devices
- typical industry chain of command for communication of information and instruction
- types, purpose, features, operation and basic non-specialist repair and maintenance of tree jacking tools and equipment:
 - tree jacks
 - chainsaws
 - maintenance tools and equipment
 - personal protection equipment
- workplace procedures specific to tree jacking activities:
 - workplace health and safety, with particular emphasis on PPE, pre-start-up checks and equipment lock-out for safe use of chainsaws
 - use and maintenance of equipment
 - communication reporting line during tree jacking process
 - recording and reporting tree jacking process and equipment faults.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:

- trees to be felled that are 180 degrees away from their natural direction of fall
- tools and equipment for tree jacking operations, including tree jacks, chainsaws and maintenance tools and equipment for chainsaws and tree jacks
- PPE suitable for tree jacking activities and chainsaw maintenance
- specifications:
 - manufacturer instructions for use and maintenance of equipment
 - work order or instruction with specific instructions for tree jacking operations
 - workplace safety and environmental policies and procedures applicable to tree jacking operations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3331 Cut material using CNC sizing machines

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to set up and operate computer numerical control (CNC) sizing machines to achieve accurate dimensional cuts of engineered wood products and timber components in a manufacturing facility. Work also involves operator maintenance.

The unit applies to individuals who work as production workers, engineered timber products technicians, machine operators or timber fabricators. Operators generally work under broad or limited direction to complete routine activities related to their own work and take responsibility for their work.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for cutting	1.1 Review work order, specifications, workplace health and safety

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
engineered wood product or timber	<p>requirements, environmental protection practices and emergency procedures for CNC cutting operations and, where required, check with appropriate personnel</p> <p>1.2 Identify and report hazards and use personal protective equipment according to workplace requirements and health and safety legislation to maintain safe work practices</p> <p>1.3 Obtain the type and quantity of material to be cut from a storage location</p>
2. Set up the CNC sizing machine	<p>2.1 Set CNC optimising program to meet work specifications</p> <p>2.2 Check the CNC cutting machine mechanisms, emergency stops, gauges, guards and controls for safe and effective operation</p> <p>2.3 Adjust the CNC cutting machine settings according to work specifications</p> <p>2.4 Complete trial run to check system and machine operation for accuracy, quality and dimensions of finished work</p> <p>2.5 Accept or reject trialled material and dispose of according to environmental protection practices</p> <p>2.6 Complete final adjustments to CNC optimising program, cutting tools and equipment</p>
3. Operate the CNC sizing machine	<p>3.1 Use the CNC sizing machine, cutting tools and equipment according to workplace health and safety procedures, manufacturer instructions, operating capacity and purpose and environmental protection practices</p> <p>3.2 Feed engineered wood product or timber into the CNC machine, operate cutting tools according to tooling requirements and regularly monitor to minimise waste and ensure correct dimensions are produced</p> <p>3.3 Repair or dispose of incorrect cuts, off-cuts and material with defects according to environmental protection practices</p> <p>3.4 Identify routine processing problems and resolve or report to appropriate personnel</p>
4. Complete operator maintenance	<p>4.1 Lock out the CNC sizing machine according to workplace health and safety procedures</p> <p>4.2 Check blades for bluntness or damage</p> <p>4.3 Remove and replace blades according to manufacturer</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>recommendations</p> <p>4.4 Dispose of used blades according to environmental protection practices</p> <p>4.5 Keep machine clear of dust and debris according to organisational safety procedures</p> <p>4.6 Record and report production outcomes, machine and equipment faults and maintenance requirements to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Read routine, familiar workplace documents, including workplace health and safety procedures, work plans and manufacturer manuals
Writing	<ul style="list-style-type: none"> Complete basic written reports on CNC cutting operation and equipment faults
Oral communication	<ul style="list-style-type: none"> Ask questions and apply active listening skills to clarify contents of work order Make accurate verbal reports on processing and equipment faults
Numeracy	<ul style="list-style-type: none"> Identify quantities of required material within work orders, and count numbers to be cut Set numerical data on CNC optimising program according to sizing specifications Calculate the feed rate to optimise quality and quantity of production output Measure finished dimensions against specifications and allowable tolerances

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3331 Cut material using CNC sizing machines	FWPCOT3234 Cut material using CNC sizing machines	Updated Performance Evidence	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3331 Cut material using CNC sizing machines

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, during at least one operational interval, the individual has cut one or more of the following types of engineered wood product or timber according to work specifications and within prescribed organisational tolerances:

- glued laminated beams (glulam)
- cross-laminated timber (CLT)
- laminated veneer
- chipboard
- medium density fibreboard
- dressed timber
- preservative treated timber.

In performing this work, there must be evidence that the individual has:

- used one or more of the following types of computer numerical control (CNC) sizing machines:
 - CNC beam saw
 - CNC double end profiling machine
 - CNC controlled docking saws
 - CNC controlled length and angle saws
 - CNC controlled single end profiling machines
 - CNC controlled routing machines
 - CNC controlled moulders
 - CNC controlled sharpening machines
- set computer programs for the CNC sizing machines according to work specifications
- conducted operator maintenance on the CNC sizing machines, cutting tools and equipment

- followed workplace health and safety requirements, including the use of personal protective equipment (PPE).

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- health and safety hazards or risks related to operating CNC sizing machines for cutting engineered wood products or timber as identified through risk assessments, manufacturer technical information, regulations and industry health and safety guides
- workplace policies and procedures specific to cutting material using CNC sizing machines:
 - health and safety, with particular emphasis on equipment lock-out and the use of PPE
 - use of CNC sizing machines, cutting tools and equipment
 - communication reporting lines
 - recording and reporting production outcomes, machine and equipment faults and maintenance requirements
- environmental protection practices for manufacturing facilities:
 - reducing water and energy use
 - cleaning plant, cutting tools and equipment
 - disposing of, recycling and reusing timber and other waste
- range of cutting patterns used with CNC sizing machines to achieve accurate dimensions and quality of the finished product
- characteristics of timber, timber products and timber defects
- system functions and capabilities of CNC software for sizing machines, including cutting patterns and sequences
- purpose, features and operation of CNC sizing machines used to cut engineered wood product or timber
- methods for assessing saw blade condition.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - CNC sizing machine
 - computer program for sizing machines
 - maintenance tools for CNC sizing operations
 - saw blades suitable for CNC sizing machines

- PPE suitable for cutting material using CNC sizing machines
- engineered wood product or timber suitable for cutting operations using CNC sizing machines
- CNC program suitable for the cutting operations
- specifications:
 - manufacturer instructions for use and maintenance of equipment
 - work order with specific instructions for cutting material using CNC sizing machines
 - workplace policies and procedures for cutting material using CNC sizing machines, including health and safety and emergency procedures and environmental protection procedures
 - template documents for recording production outcomes, equipment faults and maintenance requirements.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3332 Machine timber or engineered wood products using CNC machining and processing centres

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to set up, operate and maintain computer numerical control (CNC) machining and processing centres used to process and cut holes in engineered wood products and timber components. Work also involves operator maintenance.

The unit applies to individuals who operate CNC machining and processing centres in a timber or wood products production facility.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for machining engineered wood	1.1 Review work order, machining specifications, workplace health and safety and environmental protection practices and/or procedures,

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
products or timber	<p>and emergency procedures for CNC machining operation and, where required, check with appropriate personnel</p> <p>1.2 Identify and report hazards and use personal protective equipment according to workplace requirements and health and safety legislation to maintain safe work practices</p> <p>1.3 Obtain type and quantity of timber or engineered wood products for machining from storage location</p>
2. Set up CNC machine	<p>2.1 Set CNC program to meet work specifications</p> <p>2.2 Check CNC machine mechanisms, cutting tools, jigs, emergency stops, gauges, guards and controls for safe and effective operation</p> <p>2.3 Adjust CNC machine settings according to work specifications</p> <p>2.4 Complete trial run to check system and machine operation for accuracy, quality and dimensions of finished work</p> <p>2.5 Accept or reject trialled timber or engineered wood products, and dispose of according to workplace environmental protection practices and/or procedures</p> <p>2.6 Complete final adjustments to CNC program, cutting tools and equipment</p>
3. Operate CNC machine	<p>3.1 Use CNC machine, cutting tools and equipment according to purpose, workplace health and safety procedures and environmental protection practices and/or procedures, manufacturer instructions and operational capacity</p> <p>3.2 Feed engineered wood product or timber into CNC machine, operate cutting tools according to tooling requirements and regularly monitor to minimise waste and ensure correct dimensions are produced</p> <p>3.3 Repair or dispose of incorrect cuts, off-cuts and timber or engineered wood products with defects according to workplace environmental protection practices and/or procedures</p> <p>3.4 Identify routine processing problems and resolve or report to appropriate personnel</p>
4. Complete operator maintenance	<p>4.1 Lock out CNC machine according to workplace health and safety procedures</p> <p>4.2 Check cutting tools for bluntness or damage</p> <p>4.3 Remove and replace cutting tools according to manufacturer</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	recommendations 4.4 Dispose of used cutting tools according to workplace environmental protection practices and/or procedures 4.5 Keep machining area clear of dust and debris according to workplace health and safety procedures 4.6 Record and report production outcomes, machine and equipment faults and maintenance requirements to appropriate personnel

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret routine workplace documents related to CNC machining operations
Oral communication	<ul style="list-style-type: none"> Ask open and closed probing questions and actively listen to clarify contents of work orders and production documentation
Numeracy	<ul style="list-style-type: none"> Identify quantities of required timber or wood products within work plans, and count numbers to be machined Set numerical data on CNC program according to machining specifications Calculate feed rate to optimise quality and quantity of production output Measure finished dimensions against specifications and appropriate tolerances

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3332 Machine timber or	FWPCOT3235 Machine material	Updated unit title Minor changes to	Equivalent

engineered wood products using CNC machining and processing centres	using CNC machining and processing centres	Application and Knowledge Evidence Revised Foundation Skills, Performance Evidence and Assessment Conditions	
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Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3332 Machine timber or engineered wood products using CNC machining and processing centres

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, for one production run, the individual has machined engineered wood product or timber using one type of computer numerical control (CNC) machining and processing centre selected from:

- CNC three-axis machining centre
- CNC multi-tasking machining centre
- CNC flat-bed router and mortiser.

In performing this task, the individual has machined one type of engineered wood product or timber selected from:

- glued laminated timber (glulam)
- cross-laminated timber (CLT)
- laminated veneer
- chipboard
- medium density fibreboard
- dressed timber
- preservative treated timber.

Also, in performing this task, the individual has:

- followed workplace health and safety and environmental protection practices and/or procedures
- set computer program, conducted a trial run and made necessary adjustments to ensure that quality and dimensions of finished work conform to work specifications
- run CNC machining and processing centre according to workplace operating procedures

- achieved finished dimensions within prescribed tolerances
- conducted operator maintenance on the CNC machining and processing centre.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- health and safety hazards or risks related to operating a CNC machine and processing centre for engineered wood products and timber as identified through risk assessments, manufacturer technical information, regulations and industry health and safety guides
- workplace policies and procedures specific to machining engineered wood products and timber using CNC machine and processing centres, including:
 - health and safety, with particular emphasis on equipment lock-out and the use of personal protective equipment (PPE)
 - use of CNC machines, cutting tools and equipment
 - communication reporting lines
 - recording and reporting production outcomes, machine and equipment faults and maintenance requirements
- environmental protection requirements and practices for timber manufacturing facilities, including:
 - reducing water and energy use
 - cleaning plant, cutting tools and equipment
 - disposing of, recycling and reusing timber and other waste
- range of cutting patterns used with CNC machining and processing centre to achieve accurate dimensions and quality of finished work
- system functions and capabilities of CNC software for machining and processing centre
- purpose, features and operation of CNC machining and processing centre and equipment used to machine engineered wood products or timber, including:
 - three-axis machining centres
 - multi-tasking machining centres
 - flat-bed routers and mortisers
 - dust extraction equipment
 - jigs and shaped templates for routing
- timber characteristics, timber products and timber defects
- methods for assessing condition of cutting tools.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:

- skills must be demonstrated in a timber processing plant, a timber product manufacturing plant or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - CNC machining and processing centre
 - CNC program suitable for the machining operation
 - dust extraction equipment
 - cutting tools and equipment suitable for CNC machining operation
 - maintenance tools suitable for CNC machining operation
 - PPE suitable for machining timber or engineered wood products using CNC machining and processing centres
 - engineered wood product or timber suitable for machining operations using CNC machining and processing centre
- specifications:
 - work order with specific instructions for machining timber or engineered wood products using CNC machining and processing centre
 - workplace operating procedure for CNC machining and processing centre
 - workplace policies and procedures for machining timber or engineered wood products using CNC machining and processing centre, including health and safety and emergency procedures and environmental protection polices and/or procedures.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3333 Conduct heat plant operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to prepare for, start up, operate, shut down and store an energy producing heat plant.

The unit applies to individuals who operate heat plants in a timber or wood products production facility.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for heat plant operations	1.1 Determine job requirements from work order or instruction and, where required, check with appropriate personnel 1.2 Confirm workplace health and safety and environmental protection practices and/or procedures and emergency procedures relevant to task

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.3 Identify hazards, assess risks and determine control measures associated with energy generating heat banks</p> <p>1.4 Select appropriate personal protective equipment and check for operational effectiveness</p> <p>1.5 Identify and set quantity of energy to be generated for allocated process as specified in work order</p> <p>1.6 Check heat plant chemicals for correct labelling to ensure compliance with health and safety procedures and regulatory requirements</p> <p>1.7 Complete pre-operational safety and pre-start-up checks to ensure operational effectiveness of heat plant</p>
2. Operate and monitor heat plant	<p>2.1 Start heat plant according to workplace procedures</p> <p>2.2 Assess heat plant condition for anomalies during start-up, and rectify or report to relevant personnel according to workplace procedures</p> <p>2.3 Monitor heat plant operation, diagnose status and adjust to maintain safe and efficient operation</p> <p>2.4 Shut down heat plant in cases of fire according to emergency procedure</p> <p>2.5 Record and report heat plant operations and fuel efficiency to appropriate personnel</p>
3. Shut down and store heat plant	<p>3.1 Isolate and shut down heat plant according to workplace health and safety procedures</p> <p>3.2 Remove or replace valves and fittings according to workplace procedures, if required</p> <p>3.3 Maintain cleanliness of heat plant and plant room according to workplace procedures</p> <p>3.4 Select storage mode and store heat plant according to workplace procedures</p> <p>3.5 Record and report equipment faults and maintenance requirements to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret routine technical documents and instruction manual for heat plant
Writing	<ul style="list-style-type: none"> Complete routine records for heat plant operations, equipment faults and maintenance requirements
Oral communication	<ul style="list-style-type: none"> Ask questions and actively listen to clarify contents of operational orders
Numeracy	<ul style="list-style-type: none"> Interpret basic numerical machine settings, gauges and data recording equipment Record numerical data involving fuel efficiency Measure and record chemical usage

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3333 Conduct heat plant operations	FWPCOT3232 Operate heat plant	Redesigned unit that includes content from FWPCOT3232 Operate heat plant and FWPCOT4207 Plan and coordinate heat plant operations	Not equivalent
FWPCOT3333 Conduct heat plant operations	FWPCOT4207 Plan and coordinate heat plant operations	Redesigned unit that includes content from FWPCOT3232 Operate heat plant and FWPCOT4207 Plan and coordinate heat plant operations	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3333 Conduct heat plant operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has prepared for, started up, monitored and shut down heat plant operations for a timber or wood products production facility for two production cycles with different specified energy generation requirements.

In performing this task, the individual has:

- followed workplace health and safety requirements
- conducted pre-operational checks on heat plant
- diagnosed and adjusted control settings during operation
- identified and rectified or reported heat plant operating faults
- handled and labelled heat plant chemicals correctly
- prepared heat plant for periodic inspection
- completed operational and maintenance reports.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- environmental protection requirements and practices for heat plant operations, including:
 - cleaning plant, tools and equipment
 - disposing of hazardous substances
- characteristics and dangers of heat and energy generated by heat plants
- purpose, features and operation of energy generating heat plants
- energy generation capacity of workplace heat plants
- processes for heat plant start-up, shutdown, cleaning and storage
- range of data used to evaluate heat plant performance, including:
 - heat levels

- pressure levels
- energy generation levels
- heat build-up
- system overload information
- monitor fuel usage
- past performance records
- types, uses and labelling of heat plant chemicals, including safe handling and storage
- methods used to:
 - monitor operation and diagnose status of heat plant
 - remove valves and fittings
 - clean plant and plant room
- workplace procedures specific to operating heat plants, including:
 - health and safety, with particular emphasis on emergency shutdown, equipment lock-out and use of personal protective equipment
 - communication reporting lines
 - recording and reporting on operational and fuel efficiency data, equipment faults and maintenance requirements.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing plant, a timber manufacturing plant or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - energy generating heat plant
 - heat plant chemicals and labels
 - valves and tools for replacing valves
 - personal protective equipment suitable for operating heat plants
- specifications:
 - workplace procedures for operation of energy generating heat plants
 - templates for documenting relevant information on heat plant operations
 - manufacturer safety data sheets for chemicals used in heat plant operations
 - workplace health and safety and environmental protection policies and/or procedures applicable to energy generating heat plants.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3334 Conduct steam boiler operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to prepare for, start up, monitor, shut down and store a steam-generating boiler.

The unit applies to individuals who operate steam boilers in a timber or wood products production facility.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

This unit should not be used where the boiler equipment falls under the category for which a high risk work licence is required. Users are advised to check with the relevant regulatory authority for appropriate unit and licensing requirements.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for steam	1.1 Determine job requirements from work order and, where required,

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
boiler operations	<p>check with appropriate personnel</p> <p>1.2 Confirm workplace health and safety and environmental protection practices and/or procedures and emergency procedures for tasks</p> <p>1.3 Identify and assess hazards and take actions to mitigate risks related to steam boiler operations</p> <p>1.4 Select and use appropriate personal protective equipment and check for operational effectiveness</p> <p>1.5 Identify and set quantity of steam to be generated for allocated process as specified in work order</p> <p>1.6 Check boiler house chemicals for correct labelling to ensure compliance with safety and regulatory requirements</p> <p>1.7 Complete pre-operational safety and pre-start-up checks to ensure operational effectiveness of boiler</p>
2. Start up and monitor boiler	<p>2.1 Start boiler according to workplace procedures</p> <p>2.2 Assess boiler condition for anomalies during start-up, and rectify or report to relevant personnel according to workplace procedures</p> <p>2.3 Monitor boiler operation, diagnose status and adjust to maintain safe and efficient operation</p> <p>2.4 Store and record boiler house chemicals according to workplace safety and environmental protection practices and/or procedures</p> <p>2.5 Shut down boiler in cases of fire according to emergency procedure</p> <p>2.6 Record and report boiler operation and fuel efficiency to appropriate personnel</p>
3. Shut down, inspect and store boiler	<p>3.1 Isolate and shut down boiler according to workplace safety procedures</p> <p>3.2 Prepare boiler for periodic internal and external inspection according to workplace procedures and manufacturer instructions</p> <p>3.3 Inspect and test boiler regularly according to workplace boiler inspection and maintenance program</p> <p>3.4 Remove valves and fittings according to workplace procedures and manufacturer requirements, if required</p> <p>3.5 Clean boiler externally and internally, as required, according to workplace procedures, environmental protection requirements and manufacturer instructions</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	3.6 Select storage mode and store boiler according to workplace procedures 3.7 Record and report equipment faults and maintenance requirements to appropriate personnel

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret information from workplace procedures and documents, including Safety Data Sheets and chemical labels
Writing	<ul style="list-style-type: none"> Complete routine records for boiler operations, equipment faults and maintenance requirements
Oral communication	<ul style="list-style-type: none"> Ask questions and actively listen to clarify contents of operational orders
Numeracy	<ul style="list-style-type: none"> Interpret basic numerical machine settings, gauges and data recording equipment Record numerical data involving fuel efficiency Calculate approximate heating requirements and volumes of steam Measure and record chemical usage

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3334 Conduct steam boiler operations	FWPCOT3231 Operate steam boiler	Redesigned unit that includes content from FWPCOT3231 Operate steam boiler and FWPCOT4206 Plan and coordinate boiler operations	Not equivalent

FWPCOT3334 Conduct steam boiler operations	FWPCOT4206 Plan and coordinate boiler operations	Redesigned unit that includes content from FWPCOT3231 Operate steam boiler and FWPCOT4206 Plan and coordinate boiler operations	Not equivalent
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Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3334 Conduct steam boiler operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has prepared for, started up, monitored and shut down a steam boiler in a timber or wood products production facility for two production cycles with different specified energy generation requirements.

In performing this task, the individual has:

- followed workplace health and safety and environmental protection practices and/or procedures
- conducted pre-operational checks on steam boiler
- diagnosed and adjusted control settings during operation
- identified and rectified boiler operating faults
- handled and labelled boiler house chemicals correctly
- prepared steam boiler for periodic inspection
- completed operational and maintenance reports.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- environmental protection requirements and practices for boiler operations, including:
 - cleaning plant, tools and equipment
 - disposing of hazardous substances
- characteristics and dangers of steam
- purpose, features and operation of:
 - steam-generating boilers, including liquid or vapour restricted to water or steam
 - fuel and fuel supply system
- energy generation capacity of workplace steam boilers

- processes for boiler start-up, shutdown, cleaning and storage
- range of data used to evaluate boiler performance, including:
 - steam levels
 - pressure levels
 - energy generation levels
 - heat build-up
 - system overload information
 - test outcomes for water quality and chemicals
 - past performance records
- types, uses and labelling of boiler house chemicals, including safe handling and storage
- methods used to:
 - remove valves and fittings
 - clean boilers internally and externally
 - monitor operation and diagnose status of steam boiler
 - inspect boilers after shutdown
- workplace procedures specific to operating steam boilers, including:
 - boiler inspection and maintenance
 - health and safety, with particular emphasis on shutdown, equipment lock-out and use of personal protective equipment
 - communication reporting lines
 - recording and reporting on operational and fuel efficiency data, equipment faults and maintenance requirements.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing plant, a timber manufacturing plant or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - steam-generating boiler
 - fuel and fuel supply system
 - boiler house chemicals and labels
 - valves and tools for replacing valves
 - personal protective equipment suitable for operating steam boilers
- specifications:
 - workplace procedures for steam boiler operations
 - templates for documenting relevant information on steam boiler operations
 - manufacturer safety data sheets for chemicals used in steam boiler operations

- workplace health and safety and environmental protection policies and/or procedures applicable to boiler operations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3335 Conduct operator level equipment maintenance in forest and wood products industry

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to complete shutdown procedures, inspections, maintenance and routine fault repairs for equipment used in forest or wood products operations.

The unit applies to production operators who undertake routine maintenance tasks for equipment in forest and wood product work settings.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for routine maintenance of forest or	1.1 Confirm routine maintenance requirements of site equipment using workplace maintenance and servicing schedules and manufacturer specifications, and, where required, seek clarification from appropriate

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
wood product equipment	personnel 1.2 Confirm workplace health and safety and environmental protection practices and/or procedures for task 1.3 Identify and assess hazards and take actions to mitigate risks related to equipment maintenance work 1.4 Select and fit personal protective equipment required for task 1.5 Review information on prior equipment operation faults, malfunctions and frequent or recurring breakdowns 1.6 Plan sequence of maintenance activities, if required, to provide reliable equipment performance with minimal disruption to production
2. Shut down and isolate forest or wood product equipment	2.1 Implement equipment shutdown and isolation procedure according to manufacturer instructions and workplace procedures 2.2 Check equipment is depressurised, emptied, de-energised or bled according to manufacturer instructions 2.3 Install required safety and/or security lock-off devices and signage according to manufacturer instructions and workplace procedures 2.4 Conduct tests to ensure equipment is safely shut down and isolated according to manufacturer instructions and workplace procedures 2.5 Confirm shutdown and isolation complies with health and safety, legislative and regulatory requirements
3. Carry out routine maintenance of forest or wood product equipment	3.1 Inspect equipment and components to identify faults according to workplace procedure and routine maintenance requirements 3.2 Assess nature of equipment faults and maintenance or repairs required 3.3 Rectify routine faults and refer complex faults to relevant personnel according to workplace procedures
4. Complete routine maintenance of forest or wood product equipment	4.1 Dispose of non-repairable equipment or components according to workplace procedures, manufacturer recommendations and environmental protection requirements 4.2 Complete repair and maintenance records and reports according to workplace requirements

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret terminology in equipment operation and maintenance documents
Writing	<ul style="list-style-type: none"> Complete routine records related to equipment service and repair
Oral communication	<ul style="list-style-type: none"> Use open and closed questions and actively listen to clarify equipment servicing requirements
Numeracy	<ul style="list-style-type: none"> Perform routine measurements and calculations used in equipment maintenance Interpret numerical and graphical information relevant to equipment maintenance Interpret units of measurement used in equipment maintenance

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3335 Conduct operator level equipment maintenance in forest and wood products industry	FWPCOT3224 Plan and monitor equipment maintenance	<p>Unit redesigned to emphasise operator level equipment maintenance, including the addition of a new Element 2 for shutting down and isolating equipment</p> <p>Includes content from previous unit</p> <p>Major changes to all sections of the unit</p>	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3335 Conduct operator level equipment maintenance in forest and wood products industry

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has:

- completed inspections for two components of one item of forestry or wood products equipment as part of preventative maintenance
- conducted shutdown or isolation of one item of forestry or wood products equipment
- completed three basic non-specialist repairs selected from the list below for one item of forestry or wood products equipment as part of preventative maintenance:
 - cleaning
 - oil top-ups
 - processing tools changes
 - filter changes or cleaning
 - greasing
 - lubricating
 - pressure checks
 - removing and replacing machinery components
 - tightening, tensioning and adjusting equipment components
 - maintaining or replacing consumables
- completed records and reports on the repair and maintenance of the item of equipment.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- purpose, features and operation of forest or wood products equipment used at worksite, including respective technical capabilities and limitations

- importance of preventative maintenance
- components of forest or wood products equipment that increase the risk of breakdown and frequently malfunction
- techniques and requirements for checking components of forest or wood products equipment as part of preventive maintenance at worksite
- equipment isolation and shutdown procedures for equipment used in forest and wood products operations, including:
 - reasons, procedures and safety precautions for shutting down and isolating equipment
 - run down time
 - situations in which shutdown and isolation of equipment is required, including inspections, repairs, maintenance, assessments, adjustments and cleaning
 - reasons and procedures for purging, depressurising, emptying, de-energising or bleeding equipment
 - reasons and procedures for verifying equipment shutdown and isolation
 - legislation, regulations and Australian Standards pertaining to isolation and shutdown
 - types of safety/security lock-off devices and signage
 - reasons and procedures for installing lock-off devices and signage
- basic non-specialist repair and maintenance techniques for forest or wood products equipment, including:
 - cleaning
 - oil top-ups
 - processing tools changes
 - filter changes or cleaning
 - greasing
 - lubricating
 - pressure checks
 - removing and replacing equipment components
 - tightening, tensioning and adjusting equipment components
 - maintaining or replacing consumables
- procedure for assessing the nature of forest or wood products equipment faults, including:
 - cause
 - seriousness
 - likely repair requirements
 - potential for further damage and personal injury
 - availability of alternatives
 - reference to manufacturer instructions
- safe handling and disposal of waste materials, including lubricants, according to environmental protection requirements and practices
- workplace procedures relevant to preventative maintenance of forest or wood products equipment, including:
 - standard operating procedures

- health and safety, with particular emphasis on equipment lock-out, use of personal protective equipment and handling hazardous substances
- communication reporting lines
- recording and reporting equipment faults, repair and maintenance actions.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing plant, a timber product manufacturing plant or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - equipment items used at forest and wood product worksite to meet requirements specified in the performance evidence
 - manufacturer instructions for items of equipment
- specifications:
 - workplace procedures for maintaining forest or wood products equipment
 - workplace health and safety and environmental protection policies and/or procedures applicable to forest or wood products equipment maintenance.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3336 Coordinate set up and operation of timber finger jointing line

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to coordinate finger jointing operations, including planning schedules for operators, setting up equipment for production runs, resolving processing problems and coordinating equipment shutdown and maintenance.

The unit applies to individuals who coordinate the production of finger jointed timber in a timber processing or manufacturing facility.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Establish finger	1.1 Access data in production orders on grades, quantities,

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
jointing schedule	<p>cross-sections and end use to plan finger jointing schedule</p> <p>1.2 Develop and document finger jointing schedule to ensure optimum production outcomes</p> <p>1.3 Communicate finger jointing schedule to operators according to workplace procedures</p>
2. Prepare for finger jointing operations	<p>2.1 Review work order and specifications, and check with appropriate personnel as required</p> <p>2.2 Review workplace health and safety procedures, including use of personal protective equipment, equipment lock-out and safe manual handling techniques</p> <p>2.3 Confirm legislation, standards and codes of practice relevant to timber jointing operations</p> <p>2.4 Identify and assess hazards and take actions to mitigate risks related to operating finger jointing machines</p> <p>2.5 Identify workplace environmental protection practices and/or procedures for minimising and disposing of waste material, cleaning tools and equipment, and maximising energy efficiency</p>
3. Coordinate set-up of finger jointing line	<p>3.1 Check finger jointing equipment for safety and operational effectiveness, and adjust set-up to meet production requirements</p> <p>3.2 Select, check and prepare cutters to suit finger profile and timber cross-sections</p> <p>3.3 Set feed rates, guides, conveyors, glue spreader and curing controls to satisfy finger profile, timber cross-section characteristics and glue requirements</p> <p>3.4 Coordinate cutting of trial timber joints and check finger profiles against specifications</p> <p>3.5 Coordinate machining of trial cleat and join and test for strength and appearance</p> <p>3.6 Accept or reject trialled timber according to workplace procedures and quality standards</p> <p>3.7 Resolve any machining problems and make final adjustments to equipment set-up according to workplace procedures and production requirements</p>
4. Coordinate and monitor operation of	4.1 Coordinate start-up of finger jointing line in conjunction with operators according to workplace procedures and manufacturer

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
finger jointing line	specifications 4.2 Monitor finger jointing operation to ensure safety, product quality and output 4.3 Identify routine processing and equipment faults and resolve or report to appropriate personnel according to workplace procedures 4.4 Record and report production outcomes according to workplace procedures
5. Coordinate shutdown and maintenance	5.1 Coordinate finger jointing line shutdown with operators according to workplace health and safety procedures 5.2 Assist maintenance personnel to identify and resolve equipment faults 5.3 Plan and coordinate routine maintenance of finger jointing equipment according to workplace procedures and maintenance schedules

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret routine workplace documents, including manufacturer instructions for finger jointer
Oral communication	<ul style="list-style-type: none"> Ask open and closed probing questions and actively listen to clarify contents of work orders and production documentation Convey and explain information to others using clear language and industry terminology

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status

FWPCOT3336 Coordinate set up and operation of timber finger jointing line	FWPCOT3288 Set up, operate and maintain finger jointing machines	New unit title Revised and updated Application, Elements, Performance Criteria, Foundation Skills and Performance Evidence	Not equivalent
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Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3336 Coordinate set up and operation of timber finger jointing line

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has coordinated the set-up and operation of a finger jointing line for one production cycle according to work order and workplace health and safety requirements.

In performing this task, the individual has:

- assessed hazards associated with finger jointing operations
- developed and documented finger jointing schedule for one production cycle
- communicated finger jointing schedule to operators
- checked finger jointing equipment for safety and operational effectiveness
- complied with legislation, standards and codes of practice relevant to timber jointing operations
- set up finger jointing equipment to meet production requirements
- coordinated cutting of trial timber joints and checked against specifications
- coordinated start-up of finger jointing line in conjunction with operators
- monitored finger jointing operation to ensure safety, product quality and output
- identified and responded to routine processing and equipment faults
- completed production reports
- coordinated routine maintenance of finger jointing equipment.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- legislation, standards and codes of practice relevant to timber jointing operations
- operational capacity of finger jointing equipment
- workflow processes for finger jointing operations

- methods of determining finger jointing schedules to maximise equipment, labour and material use
- format, content and use of finger jointing schedules
- monitoring processes for jointing machines and overall production process
- typical processing and equipment faults and solutions for minimal production disruption
- industry standard cross-sections, their strength, tolerances and applicable terminology
- purpose, features, operation and maintenance requirements of automated finger jointing line:
 - finger jointing machine stations and equipment
 - safety features
 - glue spreader
 - conveyors
- types of risk and hazards and mitigation measures associated with finger jointing operations
- workplace policies and procedures specific to finger jointing operations, including:
 - health and safety, with particular emphasis on equipment lock-out, use of personal protective equipment (PPE) and safe manual handling techniques
 - use of finger jointing machine and equipment
 - communication reporting lines
 - recording and reporting finger jointing schedules, production outcomes and maintenance schedules, equipment faults and maintenance requirements
- environmental protection requirements and practices for timber processing and manufacturing facilities, including:
 - reducing water and energy use
 - cleaning plant, tools and equipment
 - disposing, recycling and reusing timber and other waste.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing plant, timber product manufacturing plant or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - computers, keyboards, printers and software used to prepare finger jointing schedules and maintenance documents
 - automated finger jointing line
 - consumable glue and cutters
 - PPE suitable for finger jointing operations
 - timber for finger jointing operations

- specifications:
 - production orders with workplace information about grades, quantities and cross-sections for specified finger jointed timber products
 - template documents for recording finger jointing schedules, production outcomes, and maintenance schedules for finger jointing equipment
 - workplace procedures for finger jointing operations
- relationships:
 - work team required for operation of finger jointing line.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3337 Operate timber finger jointing line

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to operate a timber finger jointing line. This includes performing pre-operational checks, carrying out in-feed operations, monitoring finger jointing operations and performing out-feed operations.

The unit applies to timber products operators involved with the production of finger jointed timber in a wood products production facility.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for timber finger jointing operation	1.1 Determine job requirements from work order or instruction, and where required, seek clarification from appropriate personnel 1.2 Confirm workplace health and safety and environmental protection practices and/or procedures for task, including use of personal

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	protective equipment 1.3 Confirm legislation, standards and codes of practice relevant to finger jointing operations 1.4 Identify and assess hazards and take actions to mitigate risks related to operation of finger jointing machinery 1.5 Complete machine pre-operational checks according to manufacturer instructions and workplace procedures 1.6 Check upstream and downstream processing stages to ensure readiness for production 1.7 Communicate with team members, if applicable, to coordinate work operations 1.8 Confirm quality and quantity of raw materials for production requirements
2. Perform in-feed operations	2.1 Carry out machine start-up procedures according to manufacturer instructions and workplace procedures 2.2 Remove foreign matter that could affect cutters and saws 2.3 Identify and confirm cross-section of cleats/shooks to match finger jointing machine set-up 2.4 Load cleats/shooks to conveyor 2.5 Reject cleats/shooks not meeting grading requirements 2.6 Feed cleats/shooks to jointing operation
3. Monitor timber finger jointer operation	3.1 Run automatic jointing process and regularly check correct operation of all sections 3.2 Maintain in-feed rate to match capability of machine and production requirements 3.3 Monitor product quality regularly and make required adjustments 3.4 Operate finger jointer to minimise misfeeding 3.5 Check and adjust settings for glue curing 3.6 Clean and fill glue spreader according to manufacturer instructions and workplace procedures 3.7 Clear work area regularly according to workplace procedures 3.8 Identify routine processing and equipment faults and resolve or report to appropriate personnel

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
4. Perform out-feed operations	4.1 Monitor finger jointed product quality to identify defects 4.2 Remove defective finger jointed product for recycling, reuse or disposal 4.3 Stack, package and label finger jointed products 4.4 Complete production and quality records and report according to workplace procedures
5. Perform post-operation checks of finger jointer	5.1 Shut down and isolate finger jointing machine according to workplace safety procedures 5.2 Clean machine according to manufacturer instructions 5.3 Conduct visual inspection of machine according to workplace procedures 5.4 Check condition of blades and cutters 5.5 Record and report faults and maintenance requirements to appropriate personnel

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extract routine information from work orders and manufacturer instructions for finger jointer
Oral communication	<ul style="list-style-type: none"> Ask open and closed questions and use active listening techniques to clarify contents of work orders Convey information to others using industry terminology
Numeracy	<ul style="list-style-type: none"> Estimate quantities and dimensions of materials used in timber finger jointing operations

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3337 Operate timber finger jointing line	FWPCOT2209 Produce finger jointed timber	New unit title Revised and updated all unit components	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3337 Operate timber finger jointing line

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has operated a finger jointing line, either individually or in a team, for one production run according to workplace safety and operating procedures, and produced finger jointed timber as directed by work instructions.

In performing this work, the individual has:

- complied with legislation, standards and codes of practice relevant to finger jointing operations
- completed pre-operational checks and start-up procedures for finger jointer
- checked, loaded and fed cleats/shooks to joining operations
- monitored operation to ensure continuity of production, minimise misfeeding and achieve required product quality
- removed substandard timber jointed product and stacked, packaged and labelled finger jointed products
- reported on production outcomes and product quality
- inspected finger jointer condition and notified appropriate personnel of any faults or maintenance needs.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- purpose and function of timber finger jointer
- key requirements of legislation, standards and codes of practice relevant to finger jointing operations
- operating parameters and capability of timber finger jointing line specific to workplace environment, including:
 - maximum and minimum shook cross-sections

- maximum and minimum shook lengths
- maximum and minimum output lengths
- throughput speed
- operating components of timber finger jointing line, including:
 - face-to-face or edge-to-edge joint profile
 - trim saws
 - conveyor
 - scoring saws
 - glue applicator
 - cut off saw
 - press
 - crowder
 - automatic stacker
- types of glue used for producing finger jointed timber
- range of industry standard cross-sections for timber, their strength, tolerances and applicable terminology
- methods for assessing condition of cutters and blade associated with timber finger jointing line
- monitoring processes in timber finger jointing operations
- workplace procedures specific to producing finger jointed timber, including:
 - health and safety, with particular emphasis on the use of personal protective equipment and equipment lock-out
 - use and maintenance of equipment
 - communication reporting lines
 - recording and reporting production outcomes and equipment faults
 - environmental protection requirements and practices.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing plant, a timber products manufacturing plant or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - finger jointer machine
 - personal protective equipment required for operation of finger jointer machine
 - cleats/shooks and glue used in finger jointing operations
- specifications:

- workplace health and safety and environmental protection policies and/or procedures applicable to finger jointing operations
- workplace procedures for finger jointing operations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3338 Identify glues and gluing systems used in production of wood products

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to assess the types and applications of glues and gluing systems used in the production of wood products.

The unit applies to individuals who are engaged in the production of wood products.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Research types, properties and applications of glues used in production of	1.1 Identify glue types by exposure categories, end-use, preparation and supplier product name 1.2 Identify hazards associated with handling, transporting, storing and disposing of glues

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
wood products	<p>1.3 Identify legislation, standards and codes of practice relevant to gluing operations</p> <p>1.4 Determine safe practices for handling, transporting, storing and disposing of glue, glue waste and containers</p> <p>1.5 Assess factors that influence shelf-life of glues, and work practices that maximise shelf-life of glues</p> <p>1.6 Investigate factors that influence glue application and bonding</p> <p>1.7 Identify glue ingredient specifications used in the workplace, and actions to be taken with out-of-specification ingredients</p>
2. Investigate gluing systems used in production of wood products	<p>2.1 Identify types, functions and components of semi-automatic and automatic systems for dosing, mixing and applying glues</p> <p>2.2 Identify operating parameters and processing capacity of gluing systems</p>
3. Identify glue testing procedures used in production of wood products	<p>3.1 Identify types and purpose of glue testing procedures</p> <p>3.2 Identify outcomes of glue testing and action to be taken if glue is out-of-specification</p>
4. Determine causes of adhesion failures in production of wood products	<p>4.1 Identify causes of adhesion failure</p> <p>4.2 Identify physical characteristics that indicate likely cause of adhesion failure</p> <p>4.3 Verify process for determining adhesion failure</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extract routine information from industry guides and standard references on glues and gluing systems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3338 Identify glues and gluing systems used in production of wood products	FWPWPP3209 Prepare resin and additives	Unit redeveloped to address a relevant skill or task that is required by industry	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3338 Identify glues and gluing systems used in production of wood products

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has researched glues and gluing systems used in production of wood products and documented the following:

- properties and applications of two glues selected from the following different types of glues:
 - synthetic or animal-based adhesives
 - rubber-based adhesives
 - polyvinyl acetate
 - epoxy resins
 - formaldehydes – resorcinol formaldehyde (RF), phenol resorcinol formaldehyde (PRF), melamine urea formaldehyde (MUF)
 - polyurethanes
- functions, components, operating parameters and processing capacity of one semi-automatic or one automatic system for dosing, mixing and applying glues that is used in the production of wood products
- legislation, standards and codes of practice relevant to gluing operations
- glue testing procedure used for checking one of the following features of one type of glue:
 - mix quantities
 - setting speed
 - how weather conditions may be affecting the process
- likely cause of one adhesion failure.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- types, properties, preparation and applications, at a basic level of understanding, of glues used in production of wood products, including:
 - synthetic or animal-based adhesives
 - rubber-based adhesives
 - polyvinyl acetate
 - epoxy resins
 - formaldehydes – RF, PRF, MUF
 - polyurethanes
- key requirements of legislation, standards and codes of practice relevant to gluing operations
- exposure categories of glue types – internal, exterior protected, exterior exposed
- commercial product names of glue types used in production of wood products
- safe practices for handling, transporting, storing and disposing of glue, glue waste and containers
- shelf-life of glues used in production of wood products, including:
 - factors that influence shelf-life of glues – temperature, humidity, type of glue, viscosity, mix time, excessive hardener
 - work practices that maximise shelf-life – stock rotation, temperature control, and airtight containers
- factors that influence glue application and bonding in the production of wood products, including:
 - shelf-life
 - storage temperature
 - accurate measurement of ingredients
 - accurate mixing
 - correct glue spread
 - correct open assembly time
- glue ingredient specifications for the production of wood products
- health and safety hazards or risks related to glues and additives used in the production of wood products, as identified through risk assessments, manufacturer technical information, regulations and industry health and safety guides
- methods used in the production of wood products to:
 - test samples
 - safely store glues
- types, functions, components, accessories and capacity of semi-automatic and automatic systems used in the production of wood products for dosing, mixing and applying glues
- sources of information on systems for dosing, mixing and applying glues
- reasons for using glue dosing, mixing and application systems in the production of wood products, including:
 - speed
 - controlling accuracy
 - consistency of product dimensions

- reducing mechanical injury
- causes of adhesion failure in the production of wood products.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing plant, a timber product manufacturing plant or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - internet access and computer software and hardware for accessing technical information on glues and gluing systems used in the production of wood products
- specifications:
 - legislation, standards and codes of practice relevant to wood products gluing operations
 - industry guides and standard references on glues and gluing systems used in the production of wood products.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3339 Grade wood product visually

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to visually assess the characteristics and defects of wood products, including recycled timber, and establish whether the strength and/or appearance properties of the product are consistent and within the grade specifications required for end-use application.

The unit applies to individuals who visually grade wood products, including recycled timber, in a wood products production facility or other work environments.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for grading wood product	1.1 Determine job requirements from work order or specifications and, where required, seek clarification from appropriate personnel 1.2 Confirm workplace health and safety and environmental protection

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>practices and/or procedures for task, including use of personal protective equipment, lifting and moving equipment and safe manual handling techniques</p> <p>1.3 Confirm legislation, standards and codes of practice relevant to visual grading operations</p> <p>1.4 Identify and assess hazards and take actions to mitigate risks related to grading operations</p> <p>1.5 Confirm type and quantity of wood product to be graded</p> <p>1.6 Identify procedures for storage and subsequent processing of wood product</p> <p>1.7 Select equipment to assist in grading wood product visually, and check for operational effectiveness</p>
2. Grade wood product visually	<p>2.1 Assess wood product characteristics visually for strength and/or appearance by identifying and measuring defects against performance requirements for wood product type and end-use application according to workplace grade specifications and relevant Australian Standards or industry codes of practice</p> <p>2.2 Measure wood product moisture content and length requirements and tolerances against allowable limits for wood product type and end-use application according to workplace grade specifications relevant Australian Standards or industry codes of practice</p> <p>2.3 Determine and mark defects and wood products that require docking, regrading or reworking and those that are rejected</p> <p>2.4 Brand, label, stamp or mark each graded wood product to indicate compliance with relevant Australian Standard and/or CodeMark certification requirements</p> <p>2.5 Record wood product grading outcomes</p>
3. Distribute graded wood product	<p>3.1 Direct material to storage or processing operations according to workplace procedures</p> <p>3.2 Arrange for reuse, recycling or disposal of sub-standard wood product according to workplace environmental protection practices and procedures</p> <p>3.3 Monitor on-site movement of wood product to achieve intended flow</p> <p>3.4 Record distribution problems and report to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret routine workplace documents and industry grading standards
Writing	<ul style="list-style-type: none"> Produce basic clear labels for timber identification Complete accurate basic reports on grading outcomes
Oral communication	<ul style="list-style-type: none"> Ask questions and actively listen to clarify work orders and job tasks and report workplace issues
Numeracy	<ul style="list-style-type: none"> Complete routine grading records involving numerical grades, dimensions and quantities

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3339 Grade wood product visually	FWPCOT3240 Grade heavy structural/engineered products	Redesigned unit that includes content from FWPCOT3240 Grade heavy structural/engineered products, FWPCOT3284 Grade, sort and mark timber materials and FWPSAW2201 Grade round poles and debarked logs	Not equivalent
FWPCOT3339 Grade wood product visually	FWPCOT3284 Grade, sort and mark timber materials	Redesigned unit that includes content from FWPCOT3240 Grade heavy structural/engineered products, FWPCOT3284 Grade, sort and mark timber materials and FWPSAW2201 Grade	Not equivalent

		round poles and debarked logs	
FWPCOT3339 Grade wood product visually	FWPSAW2201 Grade round poles and debarked logs	Redesigned unit that includes content from FWPCOT3240 Grade heavy structural/engineered products, FWPCOT3284 Grade, sort and mark timber materials and FWPSAW2201 Grade round poles and debarked logs	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3339 Grade wood product visually

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has graded, sorted and marked one product selected from the following list for one production run according to workplace procedures:

- chipboard
- coated and/or treated timber products
- cross arms for overhead lines
- crossings
- debarked logs
- decking for wharves and bridges
- dressed timber
- fibreboard
- in-the-rough timber
- laminated veneer
- medium density fibreboard
- mine guides
- piles
- plywood
- poles
- preservative treated timber
- recycled timber
- sleepers
- stress and non-stress graded timber
- timber from imported species
- timber from native species
- other engineered wood products.

In performing each of these tasks, the individual has:

- assessed wood product characteristics visually for strength and/or appearance
- complied with legislation, standards and codes of practice relevant to visual grading operations
- measured wood product moisture content and length requirements and tolerances against allowable limits for the wood product type and end-use application
- identified defects in wood products
- identified products that require docking, regrading or reworking and those that are rejected
- branded, labelled, stamped or marked each graded wood product to indicate compliance with relevant Australian Standard and/or CodeMark certification requirements
- safely used workplace equipment for lifting and moving materials
- arranged reuse, recycling or disposal of sub-standard wood product
- coordinated movement of graded material to storage or processing operations
- reported grading outcomes to appropriate personnel.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- markings used on wood products to identify grades
- key requirements of legislation, standards and codes of practice relevant to visual grading operations, including:
 - Australian Standards
 - CodeMark certification
 - industry standards for cross-sections and lengths for different types of wood products
 - grade classifications for different types of wood products
- typical flow of material supply in and out of the grading area
- methods to label wood products for storage locations, and common terms used
- purpose, features and operation of equipment used to grade wood products, including moisture meters
- workplace health and safety procedures, with particular emphasis on use of personal protective equipment (PPE) and safe manual handling techniques
- types of risk and hazards and mitigation measures associated with grading and sorting activities
- equipment used for lifting and moving wood products
- types of timber products for grading and sorting
- methods of visual estimation, grading, colour identification and tagging of different types of wood products
- procedures for sorting, marking, distribution and storage of different types of wood products
- methods of assessing wood products for number and frequency of defects
- methods for determining and recording moisture content of wood products
- wood products defects, including:

- warp
- wane
- cupping
- shakes
- insect defects
- loose or missing knots
- resin pockets
- dents
- loose surface
- lifting coatings
- thin or missing coatings
- chipped edges
- splits
- voids
- splintered or missing edges
- pin holes
- criteria for disposal, recycling and reuse of sub-standard wood products
- methods for safe disposal of waste preservative treated timber.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing plant, a timber product manufacturing plant or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - moving equipment
 - PPE suitable for grading, sorting and marking wood products
 - labelling materials
 - three different wood products for grading
 - storage locations for graded wood products
- specifications:
 - workplace procedures for grading and sorting activities.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3340 Develop knowledge of log yard operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to identify the layout and workflow in a log yard and to confirm the procedures, equipment and safety requirements associated with log yard operations.

The unit applies to operational staff who are engaged in a range of work roles in log yard operations in the forest and wood products industry.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Determine log yard operations, layout and workflow	1.1 Identify type, purpose and nature of operations of log yard 1.2 Identify layout and materials flow within log yard 1.3 Identify role and responsibilities of log yard controller and other

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	log yard team members 1.4 Determine log yard equipment and systems 1.5 Identify log stack characteristics in relation to safety, efficiency and log rotation 1.6 Assess operational problems and factors that impact on materials flow in log yard 1.7 Assess safety, materials handling and environmental hazards associated with log yard operations
2. Confirm log yard procedures, equipment and safety requirements	2.1 Determine workplace procedures, equipment and safety requirements for unloading/reloading logs 2.2 Identify workplace procedures for estimating log weights and volumes 2.3 Determine workplace procedures and safety requirements for using a weighbridge to weigh trucks and determine and record gross, net and tare weight 2.4 Confirm workplace procedures for log grading and dealing with out-of-specification logs 2.5 Identify log yard hazards and workplace procedures, equipment and safety requirements for log sorting, segregation and storage procedures 2.6 Identify workplace procedures for safely disposing of log yard residue and waste 2.7 Identify workplace procedures for log yard recording and reporting requirements

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret routine workplace documents detailing workplace procedures relevant to log yard operations

Skill	Description
Writing	<ul style="list-style-type: none"> Write basic notes using technical terms relevant to log yard operations
Numeracy	<ul style="list-style-type: none"> Use arithmetic skills to calculate weight, measurement and volume relevant to log yard operations Interpret layout diagrams, site plans and associated dimensions relevant to log yard operations

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3340 Develop knowledge of log yard operations	FWPCOT3227 Receive and measure logs	The unit has been redeveloped to address a skill or task required by industry that is not covered by an existing unit	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3340 Develop knowledge of log yard operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has:

- researched and documented layout and workflow in one log yard
- confirmed and compiled procedures, equipment information and safety requirements that apply to four different log yard operations selected from:
 - unloading/reloading
 - transport
 - grading
 - scaling
 - sorting
 - log storage
 - residue and waste management.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- types of log yards, including:
 - traditional mill log yards
 - concentration log yards
 - log reload yards
- purpose of log yards, including:
 - connect raw material supply to manufacturing processes
 - maintain log quality
- log yard layout
- log yard operations, including:

- unloading/reloading
- transport
- grading
- scaling
- sorting
- log storage
- residue and waste management
- types, uses and operation of log yard equipment and systems, including:
 - front end loaders
 - log stackers
 - hydraulic log loaders
 - log sorting systems
 - weighbridges
 - sorting bunks
 - quality assurance systems
- characteristics of log stack, including:
 - label
 - length
 - diameter
 - grade
- influences of correct stacking on safety, efficiency and log rotation
- influences of movements and product being moved on log yard layout
- log yard operational problems, including:
 - vehicle movement planning within the log yard
 - empty trips
 - seasonality of raw material availability
 - log yard shape
 - in-flow management
 - poor surface material
- materials handling hazards and principles of safe materials handling in log yards, including:
 - reduce or eliminate unnecessary movements, and combine movements
 - increase the size and weight of quantity of material moved wherever possible
 - standardise types and sizes of equipment
 - use equipment that can perform multiple tasks unless specialized equipment is needed
 - select equipment to match all aspects of material and flow in the system
 - minimise the ratio of dead weight to total weight for all moves
 - maximise the load and minimise the distance on high-intensity moves
 - make low-intensity moves if long distances must be covered
 - pick up and set down whole load

- workplace procedures, equipment and safety requirements for log yard operations, including:
 - health and safety, with particular emphasis on identifying hazards and controlling associated risks in log yard operations
 - dealing with out-of-specification logs
 - documents that need to be completed in the log yard, including requirements for tracking and identifying stock in the log yard
- purpose, features and operation of electronic measuring equipment and weighbridges
- methods used to estimate log weights and volumes using formulas and data tables.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a log yard or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - reference materials on log yard operations
 - internet access and computer software and hardware for accessing technical information on log yard operations
- specifications:
 - sample log yard site plans
 - sample workplace policies and procedures that cover current regulations and related industry standards and codes of practice applicable to safe work in log yard operations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3341 Coordinate and monitor wood chip stockpile

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to coordinate and monitor the movement and distribution of wood chips to, from and over the stockpile, including movement and loading.

The unit applies to individuals who plan and coordinate wood chip stockpile operations, including wood chip loading and movement, in forest and wood products work environments.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan wood chip stockpile movement operations	1.1 Determine job requirements from work order and, where required, seek clarification from appropriate personnel 1.2 Confirm workplace health and safety and environmental protection practices and/or procedures for task, including use of personal

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	protective equipment 1.3 Identify and assess hazards and take actions to mitigate risks related to wood chip stockpile operations 1.4 Produce stockpile schedules according to workplace procedures 1.5 Check wood chip supplies 1.6 Establish plan for stockpile operations, and communicate to team members and other appropriate personnel
2. Control wood chip stockpile	2.1 Establish area for stockpile, and estimate growth or contraction on basis of production and shipping schedules 2.2 Review reach of chip slinging equipment 2.3 Inspect stockpile and identify hazards within vehicle operational area 2.4 Monitor stockpile for signs of self-heating and fire, and take corrective action according to workplace procedures
3. Coordinate wood chip stockpile movement and loading	3.1 Select and allocate vehicles and attachments to spread chips and load transport 3.2 Advise team members and other personnel of spreading, moving and loading operations 3.3 Coordinate stockpile levelling in accordance with workplace procedures 3.4 Maintain stockpile so that it is stable, compact and provides access for chip retrieval and for continued slinging 3.5 Coordinate and direct wood chip retrieval from stockpile edges to transport 3.6 Maintain schedules so that sufficient quantities of chips are available to meet demand 3.7 Investigate, record and report on wood chip movement and equipment faults in accordance with workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret routine workplace documents related to coordinating wood chip stockpile
Writing	<ul style="list-style-type: none"> Complete routine records for processing and equipment faults
Oral communication	<ul style="list-style-type: none"> Use clear, concise verbal instructions to communicate with team members to coordinate transport and direct movement of stockpile
Numeracy	<ul style="list-style-type: none"> Estimate area and volume of wood chips Estimate reach of wood slinging equipment

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3341 Coordinate and monitor wood chip stockpile	FWPSAW3224 Coordinate and monitor the wood chip stockpile	Revised Performance Criteria Updated Foundation Skills, Performance Evidence and Assessment Conditions	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3341 Coordinate and monitor wood chip stockpile

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has:

- planned wood chip stockpile operations for one production period at one site
- established and controlled the wood chip stockpile during one production period at the site
- coordinated and monitored the loading, movement and distribution of wood chips to, from and over the wood chip stockpile during one production period at the site.

In performing these tasks, the individual has:

- followed workplace procedures
- safely used, and directed others to safely use, chip slinging equipment
- maintained wood chip stockpile to ensure stability, compactness and access for chip retrieval and ongoing slinging
- safely directed others when chips are delivered and transported by wheeled or tracked dozers or loaders
- maintained schedules to ensure that sufficient quantities of chips are available to meet demand
- maintained accurate records about stockpile and movement of woodchips.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- purpose and safe use of equipment used in coordinating and monitoring the wood chip stockpile including:
 - wheeled dozers and loaders
 - chip slinging equipment

- wood chip movement and loading procedures
- environmental protection requirements and practices for maintenance and safe disposal of waste material from stockpiles, and the cleaning of plant, tools and equipment
- environmental hazards and associated risks with stockpiles, including contamination
- workplace procedures relating to the wood chip stockpile
- causes and consequences of stockpile self-heating and fire
- wood chip movement and loading procedures
- workplace health and safety procedures including procedures for fire, emergency and evacuation
- procedures for recording and reporting workplace information
- maintenance procedures for tools and equipment.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing plant, wood chip processing plant or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - wood chip stockpile
 - equipment used in wood chip stockpile operations, including chip slinging equipment, wheeled or tracked dozers or loaders
 - personal protective equipment suitable for coordinating and monitoring the wood chip stockpile
- specifications:
 - workplace procedures for planning, coordinating and monitoring a wood chip stockpile
 - workplace health and safety and environmental protection policies and/or procedures applicable to planning, coordinating and monitoring a wood chip stockpile
- relationships:
 - team members and relevant personnel for the purposes of communicating information.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3342 Screen wood chips

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to use mechanical screen processes to separate oversize, over-thick, pins, fines and any contaminants in the wood chip flow from the accepted chips.

The unit applies to individuals who screen wood chips in wood processing work environments.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for wood chip screening	1.1 Determine job requirements from work order or instructions and, where required, check with appropriate personnel 1.2 Confirm workplace health and safety and environmental protection practices and/or procedures for task, including use of personal

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	protective equipment 1.3 Identify and assess hazards and take actions to mitigate risks related to operation of wood chip screening system 1.4 Confirm type and quantity of wood chips to be screened from production process 1.5 Complete pre-operational checks on wood chip screening system according to manufacturer instructions and workplace procedures
2. Screen wood chips	2.1 Start wood chip screening system according to workplace procedure 2.2 Set and adjust operating parameters to achieve production requirements
3. Monitor and control performance of wood chip screening system	3.1 Monitor product quality, plant performance and process according to workplace procedures 3.2 Monitor screening continually for matter that may cause contamination 3.3 Monitor conveyor operations and clear jams to ensure free flow of output material to transfer systems 3.4 Maintain incoming chip supply to match downstream production requirements 3.5 Identify operating and equipment faults and malfunctions, and take corrective action as required 3.6 Check output chips for conformity with quality specifications and production requirements
4. Perform operator maintenance on wood chip screening system	4.1 Shut down and isolate wood chip screening system according to workplace health and safety procedures 4.2 Clean wood chip screening system according to manufacturer instructions 4.3 Conduct visual inspection of wood chip screening system according to workplace procedures 4.4 Check condition of wood chip screening system components 4.5 Dispose of waste according to workplace environmental protection practices and/or procedures 4.6 Record and report system faults and maintenance requirements to appropriate personnel

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Read routine workplace documentation related to screening wood chips
Writing	<ul style="list-style-type: none"> Complete routine records for processing and equipment faults
Oral communication	<ul style="list-style-type: none"> Ask open and closed probing questions and actively listen to clarify contents of work orders
Numeracy	<ul style="list-style-type: none"> Interpret and select machine numerical settings appropriate for wood chip size and specification Estimate sizes of wood chips

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3342 Screen wood chips	FWPSAW3215 Screen wood chips	<p>Updated Application</p> <p>Revised and added new Elements and Performance Criteria</p> <p>Revised Foundation Skills, Performance Evidence and Assessment Conditions</p> <p>Added new Knowledge Evidence items</p>	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3342 Screen wood chips

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has screened wood chips using mechanical screen processes for one production period according to workplace procedures and quality specifications.

In performing this task, the individual has:

- operated wood chip screening system according to workplace health and safety and operating requirements
- adjusted operating parameters to accommodate specified wood chip size and production requirements
- monitored incoming wood chip supply and operation to detect and resolve operational problems and ensure product quality and efficient flow of output to transfer systems
- cleaned, checked and reported on condition of wood chip screening system.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- purpose of screening wood chips
- operating capacity, parameters, features, components and operation of wood chips screening system
- characteristics used to screen and sort wood chips, including:
 - species
 - size
 - moisture content
 - contaminants
- typical contaminants found in wood chips and how they affect ability to produce quality products, including:
 - bark

- charcoal
- sand, stones and metal
- hazards associated with wood chips screening
- consequences of non-conformance of wood chips with quality standards
- typical flow of wood chips supply in and out of the screening area
- industry and workplace specific quality specifications for wood chips
- stages of the wood chip production, screening and transfer process
- operating faults and malfunctions related to wood chips screening system
- environmental protection requirements and practices for forest products factory settings, including:
 - cleaning of plant, tools and equipment
 - reducing water and energy use
 - disposal, recycling and reuse
- workplace policies and procedures specific to screening wood chips, including:
 - health and safety, with particular emphasis on the use of PPE, equipment lock-outs and isolation, emergency stops, machine guarding
 - communication reporting lines
 - recording and reporting processing and equipment faults.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing plant, wood chip processing plant or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - wood chips screening system
 - a selection of wood chips
 - PPE suitable for screening wood chips
- specifications:
 - workplace procedures for screening wood chips
 - production requirements
 - workplace health and safety and environment protection policies and/or procedures applicable to screening wood chips.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3343 Test wood chips quality

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to test wood chips for quality and contamination and to report on the outcomes for downstream processing.

The unit applies to individuals who test wood chips in wood processing work environments.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for testing wood chips	1.1 Determine job requirements and wood chip specifications from work order, instructions and/or production schedules 1.2 Confirm workplace health and safety and environmental protection practices and/or procedures for task, including use of personal protective equipment

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.3 Identify and assess hazards and take actions to mitigate risks related to testing wood chips</p> <p>1.4 Select moisture meters and testing equipment and check for operational effectiveness</p>
2. Collect wood chip samples	<p>2.1 Collect wood chip samples from designated locations and ensure they are kept free from mixing and contamination</p> <p>2.2 Complete sampling records</p>
3. Test wood chips and report outcomes	<p>3.1 Test wood chip samples for moisture content, size distribution, shape and contamination</p> <p>3.2 Apply procedures for ensuring accuracy of testing equipment</p> <p>3.3 Report test results to production personnel to facilitate process control or changes</p> <p>3.4 Package, label and store residual wood chip samples and file test reports</p> <p>3.5 Record and report testing process and equipment faults</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Read routine workplace documents relevant to testing wood chips for quality
Writing	<ul style="list-style-type: none"> Complete routine records for wood chip testing operation
Oral communication	<ul style="list-style-type: none"> Ask open and closed probing questions and actively listen to clarify contents of work orders
Numeracy	<ul style="list-style-type: none"> Identify quantities of required material for sampling Estimate sizes and quantities of wood chips

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3343 Test wood chips quality	FWPSAW3223 Assess wood chips	New unit title Revised Elements and new Performance Criteria and Knowledge Evidence Revised Foundation Skills, Performance Evidence, and Assessment Conditions	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3343 Test wood chips quality

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, for one production cycle, the individual has tested wood chips for each of the following quality criteria according to prescribed workplace requirements:

- size distribution
- shape
- moisture content
- contamination.

In performing this task, the individual has:

- identified and obtained appropriate type and quantity of wood chips for sampling
- used and checked accuracy of testing equipment
- produced and reported test results to appropriate personnel for downstream processing.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- safe work practices associated with testing and reporting wood chip quality
- environmental protection requirements and practices for the safe disposal of waste or contaminated wood chips
- hazards associated with testing wood chips for quality
- workplace standards, requirements, policies and procedures for testing wood chips
- types and production characteristics of wood chips
- types of wood chip test and reasons for testing, including:
 - size distribution
 - moisture content

- contamination and bark content
- wood chip sampling and testing techniques
- procedures for ensuring the accuracy of testing equipment, including:
 - calibration
 - repeatability
 - check weights
- types and causes of contamination of wood chips, including:
 - disease
 - infestation
 - rot
 - paint
 - plastic
 - bark
 - charcoal
 - rock
 - metal
- workplace storage systems and labelling for wood chip samples
- wood chip testing equipment and its safe use, operation and maintenance
- workplace procedures for recording and reporting wood chip testing information.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing plant, wood chip processing plant or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - equipment for testing wood chips
 - a selection of wood chips
- specifications:
 - workplace procedures for testing wood chips
 - workplace health and safety and environmental protection policies and/or procedures applicable to testing wood chips.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3344 Transfer wood chips

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to operate wood chip handling equipment to transfer wood chips to stockpile or transport systems.

The unit applies to individuals who transfer wood chips in wood processing work environments.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to transfer wood chips	1.1 Determine job requirements from work order or instructions and, where required, check with appropriate personnel 1.2 Confirm workplace health and safety and environmental protection practices and/or procedures for task, including use of personal

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>protective equipment</p> <p>1.3 Identify and assess hazards and take actions to mitigate risks related to operation of wood chip transferring equipment</p> <p>1.4 Inspect deposit point for access and cleanliness</p> <p>1.5 Complete pre-operational checks on wood chip transferring system according to manufacturer instructions and workplace procedures</p>
2. Set up and use equipment for wood chip transfer	<p>2.1 Start wood chip transferring system according to workplace procedure</p> <p>2.2 Set and adjust operating parameters and feed rate to achieve production requirements</p>
3. Monitor and control performance of wood chip transferring system	<p>3.1 Monitor and adjust control parameters to maintain product quality and efficient plant performance</p> <p>3.2 Clear jams to ensure free flow of output material</p> <p>3.3 Maintain production rate according to workplace procedures and process requirements to avoid system overload</p>
4. Complete wood chip transfer	<p>4.1 Direct slinger or blower to enable filling or distribution over required area</p> <p>4.2 Check filling or distribution levels and stop or top up according to job requirements</p> <p>4.3 Identify routine processing and equipment faults and resolve or report to appropriate personnel</p>
5. Perform operator maintenance on wood chip transferring system	<p>5.1 Shut down and isolate wood chip transferring system according to workplace health and safety procedures</p> <p>5.2 Clean wood chip transferring system according to manufacturer instructions</p> <p>5.3 Conduct visual inspection of wood chip transferring system according to workplace procedures</p> <p>5.4 Record and report system faults and maintenance requirements to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret routine workplace documents related to wood chips transferring processes
Writing	<ul style="list-style-type: none"> Complete routine records for wood chips transferring processes and equipment faults
Oral communication	<ul style="list-style-type: none"> Ask open and closed questions and actively listen to clarify job requirements
Numeracy	<ul style="list-style-type: none"> Identify quantities of required wood chips within work orders

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3344 Transfer wood chips	FWPSAW3216 Transfer wood chips	Revised Application Updated and new Elements and Performance Criteria Revised Foundation Skills, Performance Evidence, Knowledge Evidence and Assessment Conditions	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3344 Transfer wood chips

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has operated a wood chip handling system to transfer wood chips to stockpile or transport systems for one production period according to workplace procedures and production requirements.

In performing this task, the individual has:

- operated wood chip transferring system according to workplace health and safety and operating requirements
- adjusted operating parameters to accommodate production requirements
- monitored incoming wood chip supply and operation to detect and resolve operational problems and ensure product quality and efficient plant performance
- directed wood chips to transport arrangements and stockpiles
- cleaned, checked and reported routine processing and equipment faults.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- operation capacity, parameters, features, components and operation of systems used for transferring wood chips
- stages of wood chip production, screening and transfer process
- typical flow of material supply in and out of wood chip production area
- hazards associated with transferring wood chips
- consequences of non-conformance with quality standards
- range of categories used for wood chips and visual characteristics, including:
 - species
 - size
 - moisture content

- workplace environmental protection requirements and practices specific to transferring wood chips, including:
 - cleaning of plant, tools and equipment
 - reducing water and energy use
- workplace policies and procedures specific to transferring wood chips, including:
 - workplace health and safety, with particular emphasis on the use of PPE, equipment lock-outs and isolation, emergency stops
 - communication reporting lines
 - recording and reporting processing and equipment faults.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing plant, a wood chip processing plant or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - wood chips transferring system
 - a selection of wood chips
 - PPE suitable for transferring wood chips
- specifications:
 - workplace procedures for transferring wood chips
 - production requirements
 - workplace health and safety and environmental protection procedures applicable to transferring wood chips.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3345 Develop knowledge of chain of custody certification requirements for forest and wood products

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to develop current understanding of the purpose of chain of custody certification in the wood and forest products industry, identify workplace chain of custody policy, procedures and documentation, and check for potential non-compliance with certification requirements in own area of work.

The unit applies to individuals who are engaged in forest and wood product procurement, processing, sales and distribution operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Determine purpose of chain of custody	1.1 Identify relationship between forest management certification and

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
certification	chain of custody certification 1.2 Identify meaning and objectives of chain of custody certification 1.3 Identify chain of custody certification body and chain of custody certification scheme relevant to own workplace
2. Confirm workplace chain of custody procedures relevant to own job role	2.1 Identify basic components of chain of custody system and personnel responsible for coordination of chain of custody processes in own workplace 2.2 Confirm legislation, standards and codes of practice relevant to chain of custody operations 2.3 Identify chain of custody workplace procedures relevant to own job role 2.4 Identify types and purpose of chain of custody documentation relevant to own job role 2.5 Identify product groups covered by certification system relevant to job role 2.6 Confirm types, uses and meanings of chain of custody logos, trademarks and labels
3. Identify chain of custody compliance requirements relevant to own job role	3.1 Confirm chain of custody compliance requirements relevant to own job role 3.2 Check supplier and other documentation relevant to own job role for compliance with chain of custody compliance requirements 3.3 Complete chain of custody documentation and records relevant to own job role 3.4 Identify potential areas of non-compliance with chain of custody requirements relevant to own job role 3.5 Identify workplace procedures for responding to incidents of non-compliance with chain of custody certification requirements

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Read workplace policies and procedures relevant to chain of custody
Writing	<ul style="list-style-type: none"> Complete chain of custody documentation relevant to work role
Oral communication	<ul style="list-style-type: none"> Use appropriate vocabulary and technical language, to report incidents of non-compliance with chain of custody certification arrangements
Numeracy	<ul style="list-style-type: none"> Interpret numeric and graphical information in checking documentation for compliance with chain of custody requirements

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3345 Develop knowledge of chain of custody certification requirements for forest and wood products	Not applicable	The unit has been created to address a skill or task required by industry that is not covered by an existing unit	Newly created

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3345 Develop knowledge of chain of custody certification requirements for forest and wood products

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has:

- identified the chain of custody certification body and chain of custody certification scheme relevant to own workplace
- identified workplace chain of custody procedures relevant to own work
- complied with legislation, standards and codes of practice relevant to chain of custody operations
- identified and confirmed the meaning of one chain of custody logo, trademark or label relevant to own work
- checked two workplace documents relevant to own work for compliance with chain of custody requirements
- identified one product group covered by certification system relevant to job role
- identified one potential non-compliance with chain of custody requirements relevant to own work and identified appropriate follow-up action.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- purpose of chain of custody certification
- legislation, standards and codes of practice relevant to chain of custody
- relationship between forest management certification and chain of custody certification
- objectives of chain of custody certification
- basic components of chain of custody system, including:
 - system for sourcing, purchasing, acquiring and receipting certified materials, including certification at product level, due diligence and illegal logging

- system for handling certified material including arrangements for keeping certified materials separated from non-certified materials
- system for providing certified material to customers
- compliance requirements
- title, purpose and basic content of chain of custody certification standards
- social, economic and environmental benefits of chain of custody for forest and wood products industry, enterprises, consumers
- chain of custody workplace procedures relevant to job role
- types of material – certified, neutral and other
- chain of custody implementation methods, including physical separation method, percentage-based method and credit method
- type and purpose of chain of custody workplace documentation relevant to job role
- product groups relevant to job role
- types, meaning and uses of chain of custody logos, trademarks and labels
- chain of custody record-keeping requirements relevant to job role
- purpose of chain of custody audits.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- resources, equipment and materials:
 - samples of chain of custody workplace documentation relevant to wood and forest products industry
 - chain of custody certification labels and logos relevant to wood and forest products industry
- specifications:
 - workplace chain of custody certification policy and procedures.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3346 Communicate effectively with general public or stakeholders concerned about forest practices

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to communicate effectively with the public or external stakeholders who are concerned about forest practices in a variety of settings. This may include protests, complaints and verbal dissent expressed in social and community situations, on social media, and in the workplace or forest worksite.

The unit applies to individuals who work in the forest and wood products industry, as well as related or similar industries, who may communicate with external stakeholders about forest practices.

All communications must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Identify strategies for	1.1 Confirm industry regulations, protocols, standards and workplace

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
positive relationships with general public or external stakeholders	<p>policies and procedures that set requirements for building positive relationships with general public or external stakeholders</p> <p>1.2 Identify external stakeholders who may be affected by or interested in forest-related activities, and identify their concerns to inform discussion on forest-related activities</p> <p>1.3 Confirm strategies for engaging with general public or external stakeholders concerned about forest activities at forest worksites and in public settings to avoid negative interactions</p> <p>1.4 Access information on benefits of forest-related activities to inform and facilitate engagement with general public or external stakeholders</p> <p>1.5 Confirm communication strategies to alleviate concerns of general public or external stakeholders</p>
2. Use strategies for interacting with general public or external stakeholders	<p>2.1 Assess engagement context and, where appropriate, follow workplace procedures for ‘unauthorised entry’ to forest site</p> <p>2.2 Use listening, reframing and questioning skills to facilitate a respectful dialogue with general public or external stakeholders</p> <p>2.3 Identify concerns of general public or external stakeholders during interactions, and apply strategies to alleviate their concerns</p> <p>2.4 Follow workplace procedures if strategies are unsuccessful in alleviating concerns of general public or external stakeholders</p> <p>2.5 Inform relevant personnel about public or external stakeholder questions and interactions</p>
3. Review participation in community and stakeholder interactions	<p>3.1 Reflect on own interactions with general public or external stakeholders concerned about forest activities, and identify areas for improvement</p> <p>3.2 Discuss difficult verbal interactions and their impact on own health and wellbeing with relevant personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Identify and extract basic information about public and stakeholder engagement from workplace procedures and documents

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3346 Communicate effectively with general public or stakeholders concerned about forest practices	Not applicable	The unit has been created to address a skill or task required by industry that is not covered by an existing unit	Newly created

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3346 Communicate effectively with general public or stakeholders concerned about forest practices

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has:

- identified common concerns of key stakeholders who are affected by and/or interested in forest-related activities
- used appropriate strategies to engage with general public or external stakeholders to alleviate concerns regarding forest activities for at least two situations, one at a forest worksite and one in a public setting, while adhering to industry regulations, protocols, standards and workplace policies and procedures for building positive relationships
- assessed one difficult verbal interaction with general public or external stakeholders for effectiveness, and identified areas for improvement.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- external stakeholders with views on forest-related activities and their concerns, including:
 - affected stakeholders
 - interested stakeholders
- benefits to communities of forest-related activities, including:
 - social benefits
 - economic benefits
 - environmental benefits
- communication styles, techniques and strategies used in the forest industry for building positive relationships with general public or external stakeholders in a variety of settings, including:
 - social and community settings

- social media settings
- workplace or on-site settings
- workplace procedures for ‘unauthorised entry’ to forest site
- techniques and strategies for alleviating concerns of general public or external stakeholders about forest-related activities and managing difficult verbal situations
- industry regulations, protocols, standards and workplace policies and procedures for building positive relationships with general public and external stakeholders
- support services to deal with the impact of community and stakeholder relationships on health and wellbeing in the forest industry.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest and wood products work environment or an environment that accurately represents workplace conditions
- specifications:
 - workplace policies and procedures for external stakeholder engagement.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3349 Assess timber against quality requirements and specifications

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to evaluate timber against quality requirements and specifications for use in timber processing and manufacturing operations.

The unit applies to individuals who evaluate and select timber in a timber processing or manufacturing facility.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for timber selection	1.1 Review work order to determine job requirements and, where required, seek clarification from appropriate personnel

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	1.2 Review workplace health and safety and environmental protection practices and/or procedures, 1.3 Identify, assess and take actions to mitigate risks and hazards associated with assessing and selecting timber 1.4 Review workplace and quality procedures on timber selection 1.5 Conduct visual inspection of timber for suitability 1.6 Review and check timber against product specifications
2. Evaluate timber for selection	2.1 Assess growth and durability of timber and assess suitability for production requirements 2.2 Assess species, timber structure, features and characteristics of timber and assess suitability for production requirements 2.3 Measure moisture content of selected timber and assess suitability for production requirements 2.4 Identify density and working properties of timber and assess suitability for production requirements 2.5 Identify faults and features in timber and assess suitability for production requirements 2.6 Select sawing patterns that best suits selected timber
3. Finalise timber selection	3.1 Assess timber against quality and specification requirements 3.2 Prepare timber for despatch, ensuring that damage is prevented or minimised 3.3 Record and report on timber selection outcomes and procedures, and identify any problems with the process and report to appropriate personnel

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extracts key information from industry standards, workplace procedures and quality procedures on criteria for timber selection

Skill	Description
Numeracy	<ul style="list-style-type: none"> Extracts numerical information from graphical and statistical information on timber properties

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3349 Assess timber against quality requirements and specifications	FWPCOT3285 Apply knowledge of wood technology principles to end use applications	Corrected title to reflect work outcomes Foundation Skills updated Minor changes to Performance Criteria and Knowledge Evidence	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3349 Assess timber against quality requirements and specifications

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has:

- read and clarified work order to determine job requirements
- followed workplace health and safety requirements for assessing and selecting timber
- undertaken visual inspection of timber and identified defects
- evaluated timber characteristics, growth patterns, structure, durability and faults for suitability for end use applications and production purposes
- prepared timber for despatch
- recorded and reported on outcomes of timber selection.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- risks and hazards and mitigation measures associated with timber assessment and selection processes
- workplace procedures for assessing and selecting timber, including:
 - health and safety, with particular emphasis on use of personal protection equipment (PPE), equipment lock-out and safe manual handling techniques
 - environmental protection practices for minimising and disposing of waste material, cleaning tools and equipment, and maximising energy efficiency
 - communication reporting lines
 - recording and reporting on outcomes of timber selection
- defects in timber and process for visually inspecting timber for defects, including:
 - contamination
 - timber colours
 - insect attack

- surface finishes
- loose surfaces
- bubbles
- holes
- breakages
- machine-caused defects
- methods for assessing timber growth patterns, including make-up of a tree:
 - bark (cortex)
 - phloem
 - cambium layer
 - sapwood (xylem)
 - heartwood (truewood)
 - pith (medulla)
 - medullary rays
 - earlywood
 - latewood
 - growth rings
 - cellulose
 - hemicelluloses
 - lignin extractives
- methods of assessing timber for:
 - durability
 - strength
 - hardness
- rating for end use of timber, classification and measurement
- methods of assessing timber structures, including:
 - hardwood (pored wood) or softwood (non-pored wood)
 - vessels, fibres, ray cells, pits, tracheids
 - texture
- methods for seasoning timber
- timber characteristics, including:
 - colour
 - density
 - texture
 - grain
 - figure
 - qualities
 - end uses
- faults and features of timber, including:
 - bow

- spring
- twist
- warp
- wane
- cupping
- shakes
- insect defects
- fungi
- knots
- resin pockets
- wild grain
- sloping grain
- working properties of timber and methods to measure properties, including:
 - timber shrinkage
 - effects of light
 - density and deterioration of the timber
 - compressive and tensile stresses
 - modulus of elasticity
 - modulus of rupture
 - deformation
 - creep
 - surface hardness
 - moisture content of timber
- sawing patterns and suitability for different timber, including:
 - live-sawn
 - back sawn
 - quarter sawn.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing or manufacturing facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - tools and equipment used to make timber selection
 - timber for selection and classification
 - PPE for assessing and selecting timber
- specifications:
 - documents, spreadsheets and commonly used template documents

- manufacturer instructions for use, repair and maintenance of equipment
- work order with specific instructions for timber assessment and selection
- workplace procedures for timber selection.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3350 Fell trees manually (intermediate)

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 9.0.

Application

This unit of competency describes the skills and knowledge required to assess, plan and safely carry out manual felling of intermediate trees using a chainsaw. This unit covers the felling procedures for trees with a level of complexity that requires significant tree assessment and practical felling skills.

The unit applies to individuals who possess existing proficiency in operating a chainsaw and are required to fell intermediate trees as part of arboriculture, forestry, agriculture, conservation and land management, local government, emergency services and other government agency operations. With the exception of minor forest produce, this unit does not apply to commercial harvesting operations.

Individuals competent in this unit should be able to effectively fell most trees, except advanced trees and/or those with significant defects and/or characteristics that cause excessive complexity.

Trees typical to the scope of this unit may have some of the following characteristics:

- lean and where weight distribution that can be assessed and readily adapted to falling direction with the use of wedges and/or controlled with hinge wood of a larger size than typical for the local environment
- limited visible damage or defect
- multi-stems
- forward lean, backward lean or side lean
- small or medium size diameter trees that can be safely felled with intermediate felling techniques
- dead trees with minimal visible damage or defects that do not add significant complexity to the cutting technique
- various dimensions relative to other trees when working in a forest environment
- in local site conditions that add additional complexity to the felling operation, including site conditions that impact the working position of the operator or the natural direction of fall of the tree.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for felling	<p>1.1 Determine job requirements from work order or instruction and, where required, seek clarification from appropriate personnel</p> <p>1.2 Confirm workplace health and safety and environmental protection practices and/or procedures for task</p> <p>1.3 Identify hazards, assess risks, determine appropriate control measures and record findings, to mitigate risks and hazards associated with felling intermediate trees by conducting a documented risk assessment according to workplace procedures</p> <p>1.4 Identify, assess and determine felling requirements of trees to be felled according to work order or instruction</p> <p>1.5 Consult and maintain communication with team members and other appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.6 Obtain tools and equipment needed for the work, and check for correct operation and safety</p> <p>1.7 Select, fit and use personal protective equipment</p>
2. Assess site conditions and surroundings	<p>2.1 Inspect site for conditions likely to affect safe implementation of felling activities</p> <p>2.2 Identify and report site environmental conditions to appropriate personnel</p> <p>2.3 Determine fall zone and implement control measures to minimise risks and hazards in the zone according to safe work procedures</p> <p>2.4 Monitor location and activity of other personnel on the work site,</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	and implement control measures according to workplace safety procedures
3. Assess tree and plan felling	<p>3.1 Identify trees considered outside own skill level, and seek assistance from appropriate personnel where required</p> <p>3.2 Assess tree visually to identify felling characteristics</p> <p>3.3 Confirm tree is safe to fell</p> <p>3.4 Assess trees and site to determine complexity of felling requirements</p> <p>3.5 Assess and progressively plan tree-felling sequence for individual trees</p> <p>3.6 Assess and check required felling direction and possible deviation</p> <p>3.7 Plan sequence of cuts to fell tree according to standard felling procedures</p> <p>3.8 Assess need, safety and suitability of an industry approved technique and associated equipment to control tree fall</p> <p>3.9 Identify suitable escape routes, and clear growth and other obstacles according to environmental care principles and workplace procedures</p>
4. Apply tree-felling techniques	<p>4.1 Apply an industry approved technique and equipment to ensure that the tree falls in the direction of the scarf cut</p> <p>4.2 Fell individual trees using planned and appropriate techniques according to the current Australian Standard and industry code of practice at a safe distance from other personnel in the work area</p> <p>4.3 Adjust cutting technique in response to movement and condition of tree</p> <p>4.4 Maintain accuracy of cuts and consistency with the cutting technique</p> <p>4.5 Use planned escape route when tree starts to fall, and monitor the fall of the tree until all movement has stopped</p> <p>4.6 Delay movement back into the felling area until all tree material, including from adjacent tree crowns, has fallen or is stable enough to allow safe access back into the felling area</p> <p>4.7 Identify procedures for removal of trees that are hung-up if safe to do so</p> <p>4.8 Dispose of waste materials according to workplace environmental</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	protection and operational practices and/ or procedures
5. Maintain chainsaw and cutting attachments	5.1 Follow workplace health and safety procedures and manufacturer instructions to deactivate and isolate equipment 5.2 Inspect chainsaw on completion of activities 5.3 Inspect for damage to chainsaw and cutting attachments, and tag for repair, service or replacement according to workplace requirements and manufacturer recommendations if required 5.4 Remove, clean, adjust, sharpen or replace chain and other components according to workplace requirements and manufacturer recommendations

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret workplace documentation and correctly identify work requirements
Writing	<ul style="list-style-type: none"> Use technical and workplace specific vocabulary to accurately and legibly complete workplace records and forms
Oral communication	<ul style="list-style-type: none"> Select and use appropriate spoken communication strategies with work colleagues and other personnel on site when felling trees Interpret hand signals with other operators to ensure safe tree felling
Numeracy	<ul style="list-style-type: none"> Complete routine calculations and report on size, length and diameter of felled trees

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status

FWPCOT3350 Fell trees manually (intermediate)	FWPCOT3347 Fell trees manually (intermediate)	Information added to Application Updates to Performance Criteria Changes to the volume/frequency of Performance Evidence and other changes to address industry needs	Not equivalent
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Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3350 Fell trees manually (intermediate)

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 9.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has conducted a complete hazards and risks assessment of site, surroundings, and trees, planned risk control measures, selected appropriate cutting techniques, and conducted the felling of a minimum of four trees with intermediate characteristics.

The trees must be chosen according to the following criteria:

- at least one tree must have a diameter, measured at the point where the scarf cut is made, that is smaller than chainsaw bar length
- at least one tree must have a diameter, measured at the point where the scarf cut is made, that exceeds chainsaw bar length
- at least one tree must have a leaning characteristic and a diameter, measured at the point where the scarf cut is made, that is smaller than chainsaw bar length
- at least one tree must have a leaning characteristic and a diameter, measured at the point where the scarf cut is made, that exceeds chainsaw bar length.

In performing this task, the individual has used a chainsaw with a bar length appropriate to the tree's diameter and has applied:

- two different scarf cutting techniques
- two different back cutting techniques, which must be for either forward leaning, side leaning or back leaning trees
- the wedge technique, on one occasion, to ensure that the tree falls in the direction of the scarf cut.

The scarfing methods must be selected from the following:

- Standard
- Humboldt
- 90 degree scarf
- V scarf.

In performing all cuts, the individual must have complied with the following criteria:

- direction – the scarf must be in the direction of the desired fell
- depth – the depth of the scarf is 1/4 to 1/3 of the diameter of the tree
- size (width) of opening – 2/3 across the front of the tree
- top and bottom scarf cuts – the two cuts should meet without overcutting or undercutting, the scarf line is level and the scarf line is at 90 degrees to the intended direction of fall
- back cut height – the back cut is level and above the scarf line by about 1/10 (or 10%) of the tree diameter
- hinge wood thickness is about 1/10 (or 10%) of the tree diameter.

There must also be evidence that the individual has documented risk assessment for at least one of the felled trees. This documentation must detail localised hazards and risks associated with tree felling and specify methods to minimise these risks.

In addition, there must be evidence that the individual has conducted risk assessment for a minimum of two trees, in addition to the initial four.

In completing this work, the individual must demonstrate correct use of personal protective equipment and that, for each tree, the felling technique was consistent with current Australian Standards and industry codes of practice applicable to tree felling operations.

There must also be evidence that the individual has sharpened one chain, inspected and carried out routine maintenance on one occasion on one chainsaw and its cutting attachments according to manufacturer requirements.

This work must comply with workplace policy and procedures and current workplace health and safety legislation and regulations.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- Australian Standards and codes of practice applicable to tree felling operations
- hazards and risks related to felling trees with chainsaws, and methods to minimise associated risks, including:
 - physical conditions of the site
 - unsafe/hazardous trees
 - fire and other emergency situations
 - overhead and underground services
 - nearby structures
 - standing vegetation in the intended direction of fall
 - falling branches
 - weather conditions
 - impediments of escape routes
 - vehicle and traffic access
 - people on or near worksite

- machinery on or near worksite
- carrying and transporting a chainsaw
- user fatigue
- hazards related to maintaining chainsaws, and methods to minimise associated risks
- features of unsafe/hazardous intermediate trees and defects of trees and how they affect tree felling activities
- types and purposes of cuts to fell intermediate trees, including:
 - scarf cuts
 - back cuts using different methods to provide hinge wood and wedges to maintain control of tree
- characteristics of intermediate trees
- methods used to identify intermediate trees:
 - that contain hazards and are deemed unsafe to fell
 - that are considered outside own skill level
 - where cuts made may lead to loss of control of tree in felling
- methods used to remove trees that are hung up, and procedures for removal
- methods for assessing chain condition
- types, safe use, operation and maintenance of chainsaws, support tools and attachments
- workplace procedures specific to felling trees with chainsaws, including:
 - workplace health and safety, with particular emphasis on deactivating and isolating equipment, use of personal protective equipment (PPE), safe manual handling and fire prevention measures
 - communication reporting lines
 - recording and reporting repairs, maintenance activities and equipment faults
- environmental protection requirements and/or procedures that meet legal obligations and requirements of the industry, state and local standards and/or codes of practice for felling trees with chainsaws, including:
 - protection of natural and cultural assets
 - cleaning plant, tools and equipment
 - disposing of, recycling and reusing materials
 - disposing of hazardous substances.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in the workplace or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - chainsaw and accessories
 - suitable trees to fell

- tools and equipment to fell trees
- PPE required in tree felling operations
- communication system
- specifications:
 - workplace health and safety and environmental policies and/or procedures applicable to tree felling and chainsaw operations
 - workplace standard operating procedures or operator manual for chainsaws.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3351 Fell trees manually (advanced)

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 9.0.

Application

This unit of competency describes the skills and knowledge required to assess, plan and safely carry out manual felling of trees with advanced characteristics using a chainsaw. This unit covers the felling procedures for advanced trees with a level of complexity that requires significant tree assessment and advanced practical felling skills.

The unit applies to individuals who possess existing proficiency in operating a chainsaw and are required to fell advanced trees as part of arboriculture, forestry, agriculture, conservation and land management, local government, emergency services and other government agency operations. With the exception of minor forest produce, this unit does not apply to commercial harvesting operations.

Individuals competent in this unit should be able to effectively fell trees of any size, species and condition, including those with significant defects and characteristics that cause excessive felling complexity, that are deemed safe to fell.

Trees typical to the scope of this unit may have some of the following characteristics:

- lean and with weight distribution that adds significant complexity yet can be assessed and adapted to site requirements
- large diameter trees, but not exclusively, that can be safely felled with complex felling techniques
- heavy forward lean
- lean in a direction away from the fall zone or side-leaning to the available fall zone
- damage or defect that requires complex felling techniques, including trees with visible lightning damage, burnt out trees and those with fire damaged butts
- hung up trees that can be removed safely
- multi-legged, hollow butts, culls and stags
- species prone to free splitting and adverse reactions during felling
- complex multi-stems
- terrain, slope and environment that can add significant complexity to the operation.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for felling	1.1 Determine job requirements from work order or instruction and, where required, seek clarification from appropriate personnel 1.2 Confirm workplace health and safety and environmental protection practices and/or procedures for task 1.3 Identify hazards, assess risks, determine appropriate control measures and record findings to mitigate risks and hazards associated with felling advanced trees by conducting a documented risk assessment according to workplace procedures 1.4 Identify, assess and determine felling requirements of trees to fell according to work order or instruction 1.5 Consult and maintain communication with team members and other appropriate personnel to ensure that work is coordinated effectively with others in the workplace 1.6 Select, fit and use personal protective equipment 1.7 Obtain tools and equipment needed for the work, and check for correct operation and safety
2. Assess site conditions and surroundings	2.1 Inspect site for conditions likely to affect safe implementation of felling activities 2.2 Identify and report site environmental conditions to appropriate personnel 2.3 Determine fall zone and implement control measures to minimise risks and hazards in the zone according to safe work procedures 2.4 Monitor location and activity of other personnel on the work site,

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	and implement control measures according to workplace safety procedures
3. Assess tree and plan felling	<p>3.1 Identify trees considered outside own skill level, and seek assistance from appropriate personnel where required</p> <p>3.2 Assess tree visually to identify felling characteristics</p> <p>3.3 Assess trees and site to determine complexity of felling requirements</p> <p>3.4 Confirm tree is safe to fell</p> <p>3.5 Assess and progressively plan tree-felling sequence for individual trees</p> <p>3.6 Assess and check required felling direction and possible deviation</p> <p>3.7 Plan suitable escape routes, and clear routes of growth and other obstacles according to environmental care, workplace and regulatory requirements</p> <p>3.8 Plan sequence of cuts to fell tree according to standard felling procedures</p> <p>3.9 Assess need, safety and suitability of an industry approved technique and associated equipment to control tree fall</p> <p>3.10 Confirm planned escape route according to workplace procedures</p>
4. Apply tree-felling techniques	<p>4.1 Fell individual trees using planned and appropriate techniques according to current Australian Standards and industry codes of practice at a safe distance from other personnel, machinery, infrastructure and other assets in the work area</p> <p>4.2 Apply an industry approved technique and equipment to ensure that the tree falls in the direction of the scarf</p> <p>4.3 Adjust cutting technique in response to movement and condition of tree</p> <p>4.4 Use planned escape route when tree starts to fall, and monitor the fall of the tree until all movement has stopped</p> <p>4.5 Delay movement back into the felling area until all tree material, including from adjacent tree crowns, has fallen or is stable enough to allow safe access back into the felling area</p> <p>4.6 Identify procedures for removal of trees that are hung-up if safe to do so</p> <p>4.7 Dispose of waste materials according to workplace environmental</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	protection and operational practices and/or procedures
5. Maintain chainsaw and cutting attachments	5.1 Follow workplace health and safety procedures and manufacturer instructions to deactivate and isolate equipment 5.2 Inspect chainsaw on completion of activities 5.3 Inspect for damage to chainsaw and cutting attachments, and tag for repair, service or replacement according to workplace requirements and manufacturer recommendations 5.4 Remove, clean, adjust, sharpen or replace chain and other components according to workplace requirements and manufacturer recommendations

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret workplace documentation to determine requirements
Writing	<ul style="list-style-type: none"> Use technical and workplace specific vocabulary to accurately and legibly complete workplace records and forms
Oral communication	<ul style="list-style-type: none"> Select and use appropriate spoken communication strategies with work colleagues and other personnel on site when felling trees Interpret hand signals with other operators to ensure safe tree felling
Numeracy	<ul style="list-style-type: none"> Complete routine calculations and report on size, length and diameter of felled trees

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3351 Fell	FWPCOT3348 Fell	Information added to	Not equivalent

trees manually (advanced)	trees manually (advanced)	<p>Application</p> <p>Updates to Performance Criteria</p> <p>New criteria added to Performance Evidence to address industry needs</p> <p>Information added to Knowledge Evidence to enhance clarity</p>	
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Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3351 Fell trees manually (advanced)

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 9.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has conducted a complete hazard and risk assessment of site, surroundings, and trees, planned risk control measures, selected appropriate cutting techniques and felled a minimum of six trees with advanced characteristics following workplace policies and procedures and current workplace health and safety legislation and regulations.

The trees must be chosen according to the following criteria:

- at least one tree to be selected from:
 - tree with a lean and a weight distribution that adds significant complexity, yet can be assessed and adapted to site requirements
 - tree leaning in a direction away from the fall zone, or side-leaning towards the available fall zone
- at least one tree with a heavy forward lean
- at least one tree that can be safely felled using one of the following complex felling techniques:
 - centre scarf technique
 - executing cuts from both sides of the tree during the scarf and back cut
- at least one tree exhibiting damage, defect or complex structure that requires complex felling techniques to be selected from the following:
 - tree with visible lightning damage
 - tree that is burnt out or has a fire-damaged butt
 - trees with complex multi-stems
 - tree with multi-legged growth or large multiple leaders
 - tree with a hollow
 - tree that is stag-dead or alive but in an advanced stage of decay
 - tree with complex large low branches.

There must also be evidence that the individual has documented a risk assessment for at least one of the felled trees. This documentation must detail localised hazards and risks associated with tree felling and specify methods to minimise these risks.

In completing this work, the individual must demonstrate correct use of personal protective equipment and that, for each tree, the felling technique used was appropriate and consistent with current Australian Standards and industry codes of practice applicable to tree felling operations.

There must also be evidence that the individual has sharpened one chain, inspected and carried out routine maintenance on one chainsaw and its cutting attachments on one occasion according to manufacturer requirements.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- Australian Standards and codes of practice applicable to tree felling operations
- hazards and risks related to felling trees with chainsaws, and methods to minimise associated risks, including:
 - physical conditions of the site
 - unsafe/hazardous trees
 - fire and other emergency situations
 - overhead and underground services
 - nearby structures
 - standing vegetation in the intended direction of fall
 - falling branches
 - weather conditions
 - impediments of escape routes
 - vehicle and traffic access
 - people on or near worksite
 - machinery on or near worksite
 - carrying and transporting a chainsaw
 - user fatigue
- hazards related to maintaining chainsaws, and methods to minimise associated risks
- features of unsafe/hazardous advanced trees and defects of trees and how they affect tree felling activities
- types and purposes of cuts to fell advanced trees:
 - scarf cut
 - back cut using different methods to provide hinge wood and wedges to maintain control of tree
- characteristics of advanced trees, considering features or factors that include:
 - lean and weight distribution

- heavy forward lean
- lean direction relative to fall zone
- tree diameter
- trees that have fallen but remain caught on other trees or structures
- damage or defects to trees from lightning, fire, or other causes
- structural particularities in trees
- species prone to splitting or reacting unpredictably during felling
- physical environment, including the terrain and slope where the tree is situated
- methods used to identify advanced trees, including those:
 - that contain hazards and are deemed unsafe to fell
 - that are considered outside own skill level
 - where cuts made may lead to loss of control of tree in felling
- methods used to remove trees that are hung up, and procedures for removal
- methods for assessing chain condition
- types, safe use, operation and maintenance of chainsaws, support tools and attachments
- workplace procedures specific to felling trees with chainsaws, including:
 - health and safety, with particular emphasis on deactivating and isolating equipment, use of personal protective equipment (PPE), safe manual handling and fire prevention measures
 - communication reporting lines
 - recording and reporting repairs, maintenance activities and equipment faults
- environmental protection requirements and practices that meet legal obligations and requirements of the industry, state and local standards and/or codes of practice for felling trees with chainsaws, including:
 - protection of natural and cultural assets
 - cleaning plant, tools and equipment
 - disposing of, recycling and reusing materials
 - disposing of hazardous substances.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in the workplace or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - chainsaw and accessories
 - suitable trees to fell
 - tools and equipment to fell trees
 - PPE required in tree felling operations

- communication system
- specifications:
 - workplace health and safety and environmental protection policies and/or procedures applicable to tree felling and chainsaw operations
 - workplace standard operating procedures or operator manual for chainsaws.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT4209 Design timber structures

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to interpret plans, select options and detail design of timber structures including roof truss, wall frame and floor components for solid brick, brick veneer and timber frame domestic houses and free-standing or attached timber structures such as pergolas.

The unit applies to designers, customer service/sales assistants (retail or wholesale), customer service officers, sales and merchandising team leaders, sales and merchandising team leaders (timber products) and timber advisors who use specialised knowledge to complete routine and non-routine tasks, and use their own judgement to deal with predictable and sometimes unpredictable problems.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Interpret construction plans	1.1 Determine type of structure, building use and site location from construction plans and specifications 1.2 Interpret and assess construction plans, drawing views and

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>specifications to identify loading information, dimensions and design details</p> <p>1.3 Obtain additional information and data from appropriate building codes, standards and regulations</p> <p>1.4 Identify design or construction limitations or relaxation requirements</p>
2. Develop and select timber structure layout options	<p>2.1 Design a functional timber truss, frame and floor structure, and draw a pictorial image based on design requirements</p> <p>2.2 Transfer fixed design details to component layout drawings</p> <p>2.3 Nominate engineered or pre-assembled components in line with budgetary constraints</p> <p>2.4 Define design sizes and spacing details in line with industry codes and standards</p> <p>2.5 Select layouts and spacing of individual structural members progressively to meet design requirements</p> <p>2.6 Fix component sizes to clarify and firm design options</p>
3. Detail timber structure component design	<p>3.1 Calculate, scale or extract physical dimensions for components from applicable code tables</p> <p>3.2 Interpret effective lengths and spans for individual components from layout, and select cross-sections in line with applicable codes</p> <p>3.3 Select material options for suitability, availability and cost effectiveness, and use consistently throughout design</p> <p>3.4 Provide alternative materials and sizes for components within scope of design and production requirements</p> <p>3.5 Design component placement and spacing to meet construction plans and specifications</p> <p>3.6 Provide design specifications for engineered or pre-assembled components in line with manufacturer recommendations</p> <p>3.7 Present detailed and accurate production information, dimensions and notes within drawing views</p> <p>3.8 Complete and maintain design records and documentation in line with workplace procedures</p>
4. Provide design and production advice	4.1 Advise production and installation personnel on design, production, assembly and installation requirements

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	4.2 Produce clear and detailed documents to support interpretation of drawings and assist with production and/or installation

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Oral communication	<ul style="list-style-type: none"> Provide clear, unambiguous information about designs and assembly requirements
Numeracy	<ul style="list-style-type: none"> Interpret numerical data from code tables involving height, length, angles, shape and load

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT4209 Design timber structures	FWPCOT4202 Design timber structures	Application clarified Elements renamed Performance Criteria, Foundation Skills and Assessment Requirements updated	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT4209 Design timber structures

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has designed floor trusses, wall framing and roof trusses for at least one structure with a minimum of 100 square metres.

In performing this design work, there must be evidence that the individual has:

- met the design requirements of the construction plan, building codes and standards
- prepared and documented designs for timber structures in line with an individual design and set of drawing views and notes
- interpreted and calculated loading conditions from construction plans and specifications
- interpreted and applied technical information and conveyed information in written, sketch and oral form.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- workplace policies and procedures for designing and preparing drawings and documenting and communicating information relating to timber floor and wall frames and roof trusses.
- applicable building regulations, codes and standards relating to the design of timber structures:
 - AS1684 and supplementary tables
 - CSIRO supplementary tables
 - National Construction Code (NCC)
- dimensions defining geometry and loading of individual structural members
- industry standard layouts, spacing and sizing dimensions of individual members for timber floor, wall frames and roof trusses
- loads imposed on timber structures:
 - live and dead loads

- mass loads and externally applied loads (wind, surrounding structures, common/special building usage)
- construction industry terminology for all components of timber wall frames, roof and floor trusses
- characteristics, properties and limitations of timber products and components:
 - nail/connector plates
 - timber species and types
- processes and methods of:
 - producing structural layout drawings and assembly drawings
 - producing designs for timber floor, wall and roof structures
 - applying mass, wind, live and dead loads to a structure
 - determining impact of surrounding buildings
- key features of construction plans.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber fabrication facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - AS1684 and supplementary tables
 - CSIRO supplementary tables
 - National Construction Code (NCC)
- specifications:
 - access to construction plans and specifications to design timber structures
 - access to industry and workplace policies and procedures for designing timber structures
- relationships:
 - person to discuss design questions with.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT4210 Provide specialised timber product solutions

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to provide advice and solutions to customers, clients and other sales staff using specialised wood and timber product knowledge. The unit includes advice on product selection, quality and quantity, price, services and warranties with respect to wood and timber products.

The unit applies to individuals who work as account sales staff, customer service/salespeople (retail or wholesale), customer service officers, sales team leaders, sales team leaders (timber products), timber advisers, and yard operators, and they are responsible for providing specialised advice on timber product solutions to customers and colleagues.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Develop complete solutions for customers/clients	<p>1.1 Establish scope of work, intended application, environment and structural integrity with customer/client</p> <p>1.2 Identify suitable wood and timber products by accessing relevant sources of information</p> <p>1.3 Convey detailed information on wood and timber product features, specifications, benefits, product options and fixing/construction issues to assist customer/client to make buying decisions</p> <p>1.4 Use sketches, drawings and technical specifications in print and electronic format to explain wood and timber product features to customer/client</p> <p>1.5 Establish wood and timber product quantities and pricing according to customer/client requirements</p> <p>1.6 Provide customer/client with accurate product warranty, payment options, delivery, inclusions and other sale-related information</p> <p>1.7 Confirm recommendations comply with legislative, design and building code requirements</p> <p>1.8 Implement processes to ensure wood and timber products are fit for purpose and are delivered safely to the customer/client</p> <p>1.9 Communicate fitting, installation, moisture protection, and surface preparation and finishing instructions or recommendations for wood and timber products to customer/client</p>
2. Manage customer relations	<p>2.1 Confirm delivery of services and products meets workplace customer service standards</p> <p>2.2 Apply effective interpersonal techniques in communicating with client/customer</p> <p>2.3 Contribute to the improvement of customer service standards, policies and processes</p> <p>2.4 Identify and remedy customer service problems, and make suggestions for improving the quality of customer service</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
3. Select wood and timber products for different applications	<p>3.1 Relate properties, characteristics, features, grade and treatments of wood and timber products to a range of domestic and commercial applications</p> <p>3.2 Identify wood and timber products to suit customer/client requirements, and confirm selection by referencing manufacturer and other sources of technical information</p> <p>3.3 Obtain installation requirements from customer/client and relate to product selection to ensure that product is suitable and product integrity is maintained</p> <p>3.4 Provide detailed fixing and installation requirements for timber products to timber advisers, building professionals, tradespeople and other customers/clients</p>
4. Access and assess information on new wood, timber and related products	<p>4.1 Use business technologies and networks to access, monitor and select information on new wood, timber and related products according to workplace requirements</p> <p>4.2 Identify emerging wood and timber technology trends, applications, impacts and benefits</p> <p>4.3 Assess the value of new wood and timber technologies, services and products to the organisation and marketplace, including ways to promote and advance both the organisation and the industry</p> <p>4.4 Communicate new innovations in wood and timber technology to staff, colleagues and customers/clients</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Identify, analyse and evaluate complex technical information to identify performance, trends and outcomes
Writing	<ul style="list-style-type: none"> Prepare documentation using format and language appropriate to context and customer/client requirements
Oral communication	<ul style="list-style-type: none"> Present information and seek advice using language appropriate to

Skill	Description
	audience <ul style="list-style-type: none"> Participate in discussions using listening and questioning to elicit advice and to clarify or confirm understanding
Numeracy	<ul style="list-style-type: none"> Calculate numerical information relating to cost, time, quantity and dimension

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT4210 Provide specialised timber product solutions	FWPCOT3269 Provide specialised timber product solutions	Clarified Application Reworded Elements and Performance Criteria Updated Foundation Skills, Performance Evidence and Assessment Conditions	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT4210 Provide specialised timber product solutions

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has:

- prepared and provided wood and timber product solutions for two different customers/clients who required the application of specialised wood and timber product knowledge and effective customer/client management
- selected wood and timber products for three different applications that required specialised wood and timber product knowledge
- accessed and assessed information on two new wood and timber technology applications, and shared this information with staff, colleagues and/or customers/clients.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- common and specialised wood, timber and related products for domestic and commercial use
- properties, characteristics, features, grades and benefits of wood, timber and related products
- different timber treatments, suitable applications and impacts of different product options
- product fixing/construction and cross-trade issues, including fixing options, pre-priming of hardwood, moisture protection, design for moisture shedding, colour or finish
- sales-related information including pricing, warranty, payment options, delivery options
- specialist licensed trade installation information that impacts on product selection
- aspects of legislative, certification and design systems applicable to merchandising activities, including workplace health and safety, environmental, design, chain of custody, organisational and reporting/record-keeping requirements
- principles and practices for effective customer relationship management

- effective interpersonal communication techniques for sharing wood and timber product information with staff, colleagues and/or customers/clients
- sources of information and methods to use these sources to access information on new and emerging wood and timber technologies and products.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a workplace location or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - wood and timber product information
- specifications:
 - access to customer/client requirements for wood and timber products
 - access to workplace documentation related to workplace health and safety, environmental, design and chain of custody of wood and timber products
 - access to workplace procedures and forms for providing advice to customers/clients and reporting/keeping records
- relationships:
 - customers and colleagues with whom the individual can interact; these can be customers and colleagues in an industry workplace who are assisted by the individual during the assessment process; or individuals who participate in role plays or simulated activities, set up for the purpose of assessment, in a simulated industry environment operated within a training organisation.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT4211 Monitor stock control procedures

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to monitor stock line operations, stock inventory levels, and stock security. It includes identifying and rectifying problems and implementing ongoing solutions for smooth receipt and despatch of products.

The unit applies to customer service/sales assistants, customer service officers and timber advisors who use their own judgment to deal with predictable and unpredictable problems and decide on solutions to a range of complex problems.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Monitor stock control	1.1 Delegate product group recording to appropriate person 1.2 Monitor stock levels and maintain at optimum level according to workplace procedures 1.3 Monitor stock reorder cycles and adjust to maintain consistent supply

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	1.4 Analyse management inventory reports and, where required, take corrective action 1.5 Notify buyers of stock levels in line with workplace procedures
2. Monitor receipt and despatch of products	2.1 Delegate receipt and despatch of products to appropriate person 2.2 Monitor staff compliance with receipt and despatch procedures and documentation processes 2.3 Coordinate distribution of products within the workplace according to workplace procedures 2.4 Ensure incoming products and those for despatch are securely stored in designated location 2.5 Report anomalies in quantity or quality of received products 2.6 Inspect, assess and report stock damage and losses, against loss forecasts, and investigate unacceptable cases 2.7 Provide advice to management on appropriate way of dealing with damaged stock
3. Monitor and maintain site and stock security	3.1 Monitor effectiveness of site and stock security procedures, and provide feedback to management 3.2 Advise staff of security procedures for stores, and monitor compliance 3.3 Advise management of requirements for security policy development and training

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret and collect information from a variety of documents Extract, interpret and analyse information from reports to determine corrective action
Writing	<ul style="list-style-type: none"> Structure management reports and material loss reports using appropriate concise vocabulary

Skill	Description
	<ul style="list-style-type: none"> Document details and information relating to delegation of roles and responsibilities
Oral communication	<ul style="list-style-type: none"> Use appropriate vocabulary to advise staff of delegation of duties Use appropriate language and terminology to advise management of dealing with damaged stock and need for staff training

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT4211 Monitor stock control procedures	FWPCOT3236 Coordinate stock control procedures	Re-titled Level of skill complexity revised Minor grammatical changes to Application, Elements and Performance Criteria Updated Foundation Skills and Assessment Requirements	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT4211 Monitor stock control procedures

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has monitored receipt and despatch of a minimum of four different stocked products and has:

- followed workplace policies and procedures relevant to monitoring stock control
- appropriately delegated receipt, despatch and recording of stock
- monitored inventory levels and stock security
- implemented site security procedures for the control of stock.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- role limitations and responsibilities of self, other stock control personnel and buyers for maintaining stock
- typical product groups for forest product factories
- principles of stock control:
 - rotation and replenishment
 - product life cycle and maximising the use of all stock
 - financial implications of stock level control
- typical stock control processes:
 - recording incoming stock
 - recording and reporting discrepancies and quality deficiencies
 - recording stock levels
 - monitoring and maintaining quality of stock
 - monitoring and maintaining stock at optimum levels
 - maintaining security of stock

- waste handling, sorting, disposal and recycling
- workplace stock reorder cycles
- internal distribution processes
- reasons for stock loss and damage, and methods to control these
- layout of stores area in forest products factories
- environmental storage requirements to maintain materials in optimum condition
- methods to categorise and label stock materials
- format, content and use of stock control documents and reports
- features, functions and system capabilities of stock control software
- workplace policies and procedures specific to stock control, store and site security.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a manufacturing or process facility or timber yard or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - appropriate and sufficient products and stock
- specifications:
 - access to workplace policies and procedures relevant to monitoring stock control
 - access to workplace forms and documentation for monitoring stock
- relationships:
 - persons to delegate roles and responsibilities.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT4212 Implement environmental management practices to a forestry operation site

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to implement environmentally sustainable forest industry practices at a forestry operations work site. This includes undertaking consultative and audit processes to assess the effectiveness of environmental protection measures and to identify areas for improved practice.

The unit applies to individuals whose work involves applying environmental management practices to a forestry operation site.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Identify and communicate measures	1.1 Consult site plans and documents to identify environment

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
for enhancing environmental sustainability at forestry work site	<p>protection measures required at forestry work site</p> <p>1.2 Apply consultative processes to negotiate and agree on environment protection measures to be implemented, processes, objectives and timelines</p> <p>1.3 Establish action plan for implementation of environment protection measures</p> <p>1.4 Communicate action plan to contractors, site personnel and other stakeholders</p> <p>1.5 Confirm processes for assessing effectiveness of environment protection measures and revising measures to ensure ongoing improvement</p>
2. Maintain quality of water, water bodies and adjacent land areas	<p>2.1 Confirm environment protection measures to minimise the impact of forestry operations on water bodies/courses, adjacent land areas and water quality</p> <p>2.2 Source and use water from locations other than mains water according to workplace procedures and environmental requirements</p> <p>2.3 Optimise use of run-off water according to workplace procedures and environmental requirements</p> <p>2.4 Implement strategies to minimise the impact of forestry operations on the integrity of water bodies/courses, adjacent areas and water quality</p>
3. Maintain soil integrity	<p>3.1 Confirm environment protection measures to minimise the impact of forestry operations on soil degradation, soil erosion, soil compaction and the siltation of water bodies</p> <p>3.2 Implement environment protection measures to minimise soil erosion, nutrient removal, compaction, changes in organic matter content and soil water status</p>
4. Maintain integrity of natural and cultural heritage assets	<p>4.1 Confirm location of natural and cultural heritage assets in forestry operations site and adjacent land areas</p> <p>4.2 Confirm environment protection measures to minimise the impact of forestry operations on natural and cultural heritage assets</p> <p>4.3 Implement environment protection measures to minimise the impact of forestry operations on natural and cultural heritage assets</p>
5. Complete environmental audit	5.1 Determine need and confirm procedures for an environmental audit

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	5.2 Conduct environmental audit according to workplace procedures 5.3 Engage contractors, site personnel and other stakeholders in the conduct of the environmental audit 5.4 Document the outcomes of the environmental audit and provide detailed and verifiable recommendations for improvements to environment protection measures 5.5 Communicate outcomes of audit, including recommendations, to appropriate person according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Read and interpret complex written documents and workplace procedures related to environment protection measures
Writing	<ul style="list-style-type: none"> Prepare written reports using technical language where precise meaning is required and rationale for recommendations is justified
Oral communication	<ul style="list-style-type: none"> Conduct face-to-face discussions with diverse audiences on environment protection measures
Numeracy	<ul style="list-style-type: none"> Analyse quantitative information and data

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT4212 Implement environmental management practices to a forestry operation site	FWPCOT5201 Implement sustainable forestry practices	New title Revised and added new Elements and Performance Criteria Revised Performance	Not equivalent

		Evidence and Knowledge Evidence Revised Assessment Conditions to comply with Standards for Training Packages	
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Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT4212 Implement environmental management practices to a forestry operation site

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has implemented environmentally sustainable forest industry practices at one work site to minimise the impact of forestry operations on the environment and natural and cultural heritage assets.

In performing this activity, the individual has:

- identified and planned environmental protection measures for each of the following assets:
 - water bodies
 - soil
 - natural and cultural heritage
- communicated environmental protection measures to relevant contractors, site personnel and other stakeholders
- managed implementation of environmental protection measures for at least one asset type
- conducted and documented an environmental audit for at least one asset type that includes recommendations for improving environmental protection practices.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- purpose and key content of environmental protection laws applicable to forestry operations
- key content of current government and industry environmental sustainability initiatives, codes of practice and guidelines
- environmental sustainability protection measures for forest settings:
 - minimising temporary, short-term, long-term and permanent damage to natural flora, fauna and landscape

- returning the environment to its original or near to original condition on completion of activity
- soil and water protection
- management of fire and weeds
- disposing of, recycling and reusing timber and other waste
- composting waste
- safely cleaning plant, tools and equipment
- protecting flora and fauna
- maintenance of culturally significant landscapes, natural or anthropogenic formations and constructions
- measures to maintain integrity of water bodies/courses and adjacent land areas
- irrigation and watering strategies that aim to:
 - minimise evaporation
 - minimise run-off
 - accurately deliver water
- environment protection measures to minimise soil erosion, nutrient removal, compaction, changes in organic matter content and soil water status
- format, content and use of audit reports
- environment protection measures to conserve natural and cultural heritage assets
- workplace policies and procedures for sustainable forestry practices.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - access to a forestry operations work site
- specifications:
 - workplace safety and environmental policies and procedures applicable to forestry operations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT4213 Monitor and manage product and service quality in the forest and wood products industry

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to coordinate, monitor and control product and service quality.

The unit applies to individuals working in a wide range of roles across all sectors of the forest and wood products industry.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Coordinate quality system practices in forest or wood products operations	1.1 Communicate quality standards, policies, procedures and quality assurance monitoring activities to team members 1.2 Confirm understanding of team members and encourage and support their participation in quality practices
2. Monitor product and service quality in forest	2.1 Monitor operational activities to ensure policies and procedures

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
or wood products operations	<p>are followed and quality standards are maintained</p> <p>2.2 Check product and/or service specifications and coordinate workplace compliance</p> <p>2.3 Monitor product and/or service quality according to quality system requirements and workplace procedures</p> <p>2.4 Assess problems with product and/or service quality and implement remedial action according to quality system and workplace procedures</p> <p>2.5 Record and report product and/or service quality outcomes according to quality system and workplace requirements</p>
3. Control quality of product and service in forest or wood products operations	<p>3.1 Assess products and/or service quality against quality standards and customer specifications</p> <p>3.2 Monitor and control despatch and/or service delivery processes according to quality system and workplace requirements</p> <p>3.3 Ensure products and/or services are supplied on time and to customer expectations</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret familiar and detailed workplace policies and procedures and complex documents such as quality standards and quality system monitoring records
Writing	<ul style="list-style-type: none"> Maintain accurate, comprehensive quality system records Produce detailed reports on performance against quality standards
Oral communication	<ul style="list-style-type: none"> Provide clear and unambiguous information about quality standards, policies, procedures and quality assurance monitoring activities to production personnel
Numeracy	<ul style="list-style-type: none"> Interpret complex numerical data in quality standards, product / service specifications and quality reports

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT4213 Monitor and manage product and service quality in the forest and wood products industry	FWPCOR4203 Monitor quality and product care procedures	Updated unit title Minor changes to Application and Performance Criteria Revised Performance Evidence and Knowledge Evidence Revised Assessment Conditions	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT4213 Monitor and manage product and service quality in the forest and wood products industry

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has coordinated, monitored and managed the quality of one product and associated supply services against quality system requirements for one forest or wood product workplace.

In performing this activity, the individual has:

- communicated quality requirements to team members
- monitored activities against workplace quality systems and procedures
- evaluated quality outcomes against quality standards and customer specifications
- remediated noncompliance and reported on performance to appropriate personnel.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- purpose of quality systems for the forest and wood products industry and for the individual workplace
- format, content and use of:
 - industry and organisation specific quality standards
 - workplace policies and procedures that align to quality standards
 - quality system monitoring records
- techniques for monitoring product or service quality relevant to forest and wood products industry
- scheduling requirements for quality system monitoring activities
- record-keeping requirements for quality systems
- roles and responsibilities of quality system coordinators and production personnel in quality system management processes

- methods for communicating quality standards, policies, procedures and quality assurance monitoring activities to production and despatch personnel
- methods for assessing the quality of products and services provided by forest and wood product workplaces
- workplace procedures for documenting quality system records and reports.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest or wood product work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - computing equipment to produce and maintain quality system records and reports
 - comprehensive real or simulated information to coordinate and monitor quality processes
 - production personnel with whom the individual can interact
- specifications:
 - workplace safety and environmental policies and procedures applicable to forestry or wood products work environments
 - workplace policies and procedures that align to industry and workplace-specific quality standards
 - workplace policies and procedures for documenting quality system records and reports
 - template for monitoring quality system records and reports
 - schedules for quality system monitoring activities.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT4214 Plan for and coordinate quarry operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to plan for and develop a quarry (borrow pit) for the purpose of sourcing material for the construction and maintenance of forest roads and tracks.

The unit applies to individuals involved in planning and supervising quarry development as part of forestry operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan for quarry development	1.1 Review need for and processes for establishing a quarry 1.2 Consult with relevant parties about possible quarry sites

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.3 Inspect possible quarry sites and assess in terms of location, access to forestry operations, land tenure and quantity and quality of material available for extraction</p> <p>1.4 Analyse samples of materials from possible quarry sites and test for suitability</p> <p>1.5 Identify environmental protection, adjacent land use, regulatory or zoning issues that may impact on the selection of the proposed quarry site</p> <p>1.6 Conduct a cost-benefit analysis to assess the viability and lifespan of the proposed quarry site</p> <p>1.7 Determine the location of the quarry</p> <p>1.8 Determine and document operational and site procedures for quarry development</p> <p>1.9 Obtain necessary licences or permits for quarry development</p>
2. Coordinate quarry development	<p>2.1 Confirm type and quantity of material and methods of extracting material according to the quarry development plan</p> <p>2.2 Establish schedule for quarry development according to quarry development plan</p> <p>2.3 Identify, assess and take actions to mitigate risks and hazards associated with quarrying operations</p> <p>2.4 Coordinate and schedule people, materials and equipment required for quarry development</p> <p>2.5 Liaise with employees and contractors to ensure that a coordinated approach is taken to the development and implementation of work plans, road maintenance and construction plans associated with quarry development</p> <p>2.6 Monitor quarry development for compliance with quarry development plan and safety, regulatory and environmental requirements</p> <p>2.7 Document quarry development activities according to workplace procedures</p> <p>2.8 Adjust quarry development plan as required in accordance with workplace procedures</p>
3. Review quarry development	<p>3.1 Review approach to quarry development</p> <p>3.2 Monitor quarry development and identify potential improvements</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	according to workplace procedures 3.3 Report on outcomes of quarry development to appropriate personnel

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret familiar and detailed workplace policies and procedures and complex documents such as quarry plans
Writing	<ul style="list-style-type: none"> Produce detailed written reports on quarry site selection and development
Oral communication	<ul style="list-style-type: none"> Ask open and closed questions and use active listening techniques to gather information related to quarry development
Numeracy	<ul style="list-style-type: none"> Interpret complex numerical data relating to the quality and quantity of quarry materials

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT4214 Plan for and coordinate quarry operations	FWPFGM4208 Plan a quarry	New title Updated Elements and Performance Criteria Revised Performance Evidence and Knowledge Evidence Revised Assessment Conditions	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT4214 Plan for and coordinate quarry operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has coordinated the development of one quarry (borrow pit) for sourcing material for the construction and maintenance of a forest road or track.

In performing this activity, the individual has:

- assessed site location, quantity and quality of materials and environmental protection requirements
- prepared site procedures and coordinated people, resources and equipment for the development of quarry
- monitored quarry development for compliance and identified methods of improvement
- recorded and reported on the outcomes of quarry development.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- workplace procedures for planning, coordinating and reviewing the development of a quarry
- selection criteria for quarry sites
- types and properties of quarry materials and their use in the construction and maintenance of forest roads and tracks
- methods of testing quarry materials used in the construction and maintenance of forest roads and tracks
- quarrying operations
- planning and sequencing quarrying activities
- risks and hazards associated with quarrying
- methods of extraction from quarries:

- with plant and equipment
- using blasting methods
- project planning techniques.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - potential quarry sites
 - plant, equipment and materials relevant to quarry operations
- specifications:
 - documentation related to quarry planning and permits
 - workplace safety and environmental policies and procedures applicable to quarry development
 - workplace policies and procedures relevant to quarry development.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT4215 Plan for and coordinate road construction and maintenance

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to plan for and coordinate road construction and maintenance activities, including heavy duty, all weather logging roads and unsurfaced earth roads, as part of forestry operations.

The unit applies to individuals with responsibility for planning and coordinating road construction and maintenance in forestry operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for road construction and	1.1 Review work instructions and road construction/maintenance plan and seek clarification as required

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
maintenance activities	<p>1.2 Review workplace health and safety procedures</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with road construction/maintenance</p> <p>1.4 Identify and implement workplace environmental protection procedures according to workplace procedures and road construction/maintenance plan</p> <p>1.5 Identify emergency plan procedures to follow in the event of an emergency</p> <p>1.6 Confirm road location, design and construction requirements</p> <p>1.7 Identify transport requirements, taking into account seasonal factors</p> <p>1.8 Confirm personnel, equipment and material requirements for road construction/maintenance activities</p>
2. Implement road construction	<p>2.1 Brief site personnel on road and track construction plan</p> <p>2.2 Coordinate and schedule personnel, material and equipment required for road construction activities</p> <p>2.3 Plan operational procedures for road construction with site personnel according to workplace procedures, environment protection requirements and road construction/maintenance plan</p> <p>2.4 Monitor construction of roads and tracks and report unexpected ground, water, vegetation or other environmental conditions to appropriate personnel</p> <p>2.5 Maintain communication with operational staff, clients and contractors throughout maintenance activities to ensure smooth operations</p> <p>2.6 Provide technical assistance to site personnel in preparing roads and tracks</p>
3. Maintain roads	<p>3.1 Brief site personnel on road and track maintenance activities</p> <p>3.2 Coordinate personnel, materials, plant and equipment required for maintenance activities, taking seasonal weather conditions into consideration</p> <p>3.3 Organise maintenance activities according to workplace procedures, environment protection requirements and road construction/maintenance plan</p> <p>3.4 Maintain communication with operational staff, clients and</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	contractors throughout maintenance activities to ensure smooth operations
4. Monitor and review road construction and maintenance	<p>4.1 Monitor road construction and maintenance activities according to workplace policy and road construction/maintenance plan</p> <p>4.2 Check that workplace health and safety procedures are observed and site environmental conditions are adhered to throughout works</p> <p>4.3 Check that performance indicators, targets and specifications are being met and that process or methods are amended as required</p> <p>4.4 Record and report on road construction and maintenance activities</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extract information from and annotate plans and drawings
Writing	<ul style="list-style-type: none"> Complete written reports on progress against road construction and maintenance plan
Oral communication	<ul style="list-style-type: none"> Ask open and closed questions and use active listening techniques to clarify road construction and maintenance requirements Respond to work-related questions from and give instructions to crew members
Numeracy	<ul style="list-style-type: none"> Interpret basic statistics and graphical information on production, safety and quality indicators

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status

FWPCOT4215 Plan for and coordinate road construction and maintenance	FWPFGM5208 Manage road construction and maintenance	Updated unit title Updated Application, Performance Criteria, Performance Evidence and Knowledge Evidence Updated Assessment Conditions	Not equivalent
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Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT4215 Plan for and coordinate road construction and maintenance

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has:

- prepared for, supervised and reported on one road construction activity based on an existing road construction and maintenance plan
- prepared for, supervised and reported on one road maintenance activity based on an existing road construction and maintenance plan.

For each of these activities, the individual has:

- confirmed road location and construction, transport and resources requirements
- coordinated people, resources and equipment
- planned operational procedures
- monitored and reported unexpected ground, water, vegetation or other environmental conditions
- maintained communication with operational staff, clients and contractors
- implemented workplace health and safety and environmental protection procedures.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- workplace policies and procedures for managing road construction and maintenance
- environmental risks and hazards associated with road construction
- protection zones for natural, drainage, cultural and social features
- types, safe use and maintenance of plant, equipment and tools used in road construction and maintenance
- characteristics and techniques for construction of all-weather logging roads and unsurfaced earth roads
- materials used for road construction and their properties, including:

- road base
- gravel
- crushed rock
- sand and bluestone
- cords and pipes for water crossings
- principles of road design and development, including:
 - control points
 - required grades
 - water crossing points and structures.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - a section of native forest or plantation for road construction and maintenance
 - plants, tools, materials and equipment for road construction and maintenance
 - work crew to supervise for road construction and maintenance
- specifications:
 - maps, plans, regulations and other documentation relevant to the construction and maintenance of roads in a forestry setting
 - workplace safety and environmental policies and procedures applicable to road construction and maintenance
 - workplace policies and procedures relevant to managing road construction and maintenance.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT4216 Plan for and coordinate construction of log landings and snig tracks

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to plan for and coordinate the construction of log landings and snig tracks in a forest or farm forest setting.

The unit applies to individuals involved in planning and supervising the construction of log landings and snig tracks as part of forestry operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Identify landing and recovery requirements	1.1 Gather information on the workplace health and safety and regulatory requirements, standards and codes of practice for the planning, construction and operation of landings and snig tracks

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.2 Obtain and assess information on logging methods, topography and environmental management considerations for site</p> <p>1.3 Identify landing location and construction requirements from harvest plan, and inspect site to assess factors affecting operations</p> <p>1.4 Identify timeframe for use of site and likely weather conditions</p> <p>1.5 Determine log extraction methods and storage requirements for landings, roads, tracks, equipment placement, falling and recovery rates and delivery schedules</p>
2. Plan for landings and snig tracks construction	<p>2.1 Confirm specific landing site size and level from harvest plan meet operational requirements, optimise construction time and minimise environmental damage</p> <p>2.2 Confirm type, number and location of snig tracks from harvest plan optimise track clearing and construction time and log handling capacity, and minimise environmental damage</p> <p>2.3 Locate track and road entry points to landing according to harvest plan, log handling procedures, vehicle and equipment access, turning and loading space requirements</p> <p>2.4 Verify landing and track provide for available equipment and access for construction</p> <p>2.5 Confirm requirements for restoration of land on completion of operations</p>
3. Coordinate landing and track development	<p>3.1 Communicate approved landing and snig track construction plan to contractors and site personnel</p> <p>3.2 Develop operational procedures for tracks and landings with contractors and site personnel</p> <p>3.3 Provide technical assistance to contractors and site personnel for construction of landing and tracks</p> <p>3.4 Monitor construction of landing and tracks</p> <p>3.5 Review and modify plan to account for unexpected ground, water, vegetation or other environmental conditions</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret complex and unfamiliar regulatory and environmental information
Writing	<ul style="list-style-type: none"> Document detailed and accurate plans for landings and snig tracks Develop and document operational procedures using language easily understood by contractors and site personnel
Oral communication	<ul style="list-style-type: none"> Provide clear and unambiguous instructions to site personnel Ask open and closed questions and actively listen to clarify issues with contractors and site personnel
Numeracy	<ul style="list-style-type: none"> Complete complex calculations involving rates of extraction, height, length, weight, vehicle turning and loading space to determine size and capacity of snig tracks

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT4216 Plan for and coordinate construction of log landings and snig tracks	FWPHAR4203 Design log landings and snig tracks	Revised title Updated Elements and Performance Criteria Revised Foundation Skills Revised Performance Evidence Revised Assessment Conditions to comply with Standards for Training Packages	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT4216 Plan for and coordinate construction of log landings and snig tracks

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has planned and coordinated the construction of one log landing site and associated snig tracks within a forest or farm forest setting for storing logs prior to being dispatched.

In performing this activity, the individual has:

- assessed log harvesting and extraction methods, landing site location and operational and environmental protection requirements
- confirmed that construction specifications meet operational requirements, optimise construction time and track clearing, and have a minimal impact on the environment
- prepared operational procedures and coordinated people, resources and equipment for the construction
- monitored construction development and identified methods of improvement.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- content and application of applicable commonwealth, state, territory or local government regulations for the design, construction and operation of landings and snig tracks
- key features of these varying environmental conditions, and effects on the planning and construction of landings and snig tracks:
 - fallen trees
 - general forest lean
 - ground growth
 - ground hazards and obstacles
 - ground slope
 - density of trees

- wet and adverse weather conditions
- environmental protection practices for forest and forest farm settings:
 - minimising temporary, short-term, long-term and permanent damage to natural vegetation and landscape
 - soil and water protection
 - returning the environment to its original or near to original condition on completion of operations
- purpose, features and operational requirements of these types of snig tracks:
 - emergency escape routes
 - equipment access tracks
 - hauling tracks
 - vehicular tracks
- purpose, features and operational requirements of:
 - landings
 - vehicles and equipment used on landings and snig tracks
- processes for:
 - designing and coordinating the development of landings and snig tracks
 - determining the most time-effective and cost-effective plan for construction
- typical industry chain of command for communication of information, instruction and technical advice
- workplace standards, policies and procedures for the design, construction and operation of landings and snig tracks:
 - workplace health and safety specific to the use of landings and snig tracks
 - environmental protection
 - documenting designs for landings and snig tracks
 - recording and reporting the design and implementation process.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - a native forest or plantation site in which landings and snig tracks are to be established
 - harvest plan for the site
 - topographic maps for the site
- specifications:
 - workplace safety and environmental policies and procedures applicable to the planning and construction of landings and snig tracks

- workplace policies and procedures for the planning and construction of landings and snig tracks.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT4217 Apply a safety mindset in forestry operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to apply a safety mindset while working in teams or when working alone, in isolation, remotely or out-of-line-of-sight in forestry operations. This includes the awareness and skills required to positively influence the safety culture of small peer-group teams.

The unit applies to those who have responsibility for leading small work teams in forestry operations.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

The prerequisite unit of competency for this unit is:

- FWPCOR3205 Apply safety, health and environmental requirements in forest and wood products operations
- or
- FWPCOR2210 Follow workplace health and safety policies and procedures.

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Maintain situational	1.1 Maintain safety procedures when dealing with known hazards in

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
awareness in forestry operations	forestry operations 1.2 Identify potential hazards and assess risks and anticipate possible consequences in operating environment 1.3 Monitor changes in operating environment and report to appropriate personnel according to workplace procedures 1.4 Maintain situational awareness of the operating environment, anticipate consequences of changed conditions and take remedial action according to workplace procedures
2. Make safety related decisions in forestry operations	2.1 Gather and analyse all available information on safety concerns 2.2 Seek opinions and suggestions from team members before deciding what to do in response to safety concerns 2.3 Consider all options, identify potential risks of options and communicate selected option to team members and other appropriate persons 2.4 Implement selected option 2.5 Review outcome of selected option to inform future decision making
3. Maintain communication while working in forestry operations	3.1 Communicate safety concerns to team members and other appropriate persons 3.2 Promote a work environment in which individuals are empowered to raise safety concerns with co-workers, team leaders and site management 3.3 Share information and understanding of operational and safety plans with team members and other appropriate persons prior to commencing or when handing over work tasks 3.4 Check that electronic communication protocols, procedures and equipment are suited to the operational environment
4. Maintain own and team member safety when working alone, in isolation or out-of-line-of-sight in forestry operations	4.1 Confirm work and safety requirements for planned work 4.2 Maintain regular and pre-arranged voice or visual contact with team members for duration of planned work 4.3 Review risk assessment to confirm appropriate control measures are in place 4.4 Monitor own and team member compliance with safe work procedures when working alone, in isolation or out-of-line-of-sight in

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	forestry operations 4.5 Maintain awareness of procedures for responding to incidents and emergencies that are appropriate for situations where work is being undertaken alone, in isolation or out-of-line-of-sight
5. Apply safety leadership in forestry operations	5.1 Clarify own role and responsibilities in work team and coordinate work tasks with other team members 5.2 Establish and maintain open communication and effective working relationships with others 5.3 Collaborate with other team members on work and safety related matters 5.4 Identify and influence other people's safety practices while working in forestry operations 5.5 Demonstrate safety leadership in routine and non-routine situations affecting safety according to workplace procedures 5.6 Participate in and clarify understanding of outcomes of debriefings of critical events/incidents to improve how they are handled in the future
6. Apply procedures for dealing with stress, remoteness and fatigue	6.1 Identify risks associated with self and other team members not being fit for work 6.2 Monitor own and others' physical and psychological wellbeing 6.3 Apply workplace procedures for avoiding, reducing and coping with stress, alcohol and drug use, remoteness and fatigue 6.4 Maintain effectiveness and concentration under periods of stress and high workload 6.5 Recognise own physical and psychological limitations, and request assistance to deal with difficult or abnormal situations

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
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Skill	Description
Reading	<ul style="list-style-type: none"> Read standard operating procedures and/or user manuals to ensure safe operation of equipment and machinery
Writing	<ul style="list-style-type: none"> Maintain safety and work related records on paper or electronic media
Oral Communication	<ul style="list-style-type: none"> Use appropriate vocabulary, including technical language, directly relevant to role
Numeracy	<ul style="list-style-type: none"> Interpret numerical and graphical information related to safe work operations

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT4217 Apply a safety mindset in forestry operations	Not applicable	The unit has been created to address a skill or task required by industry that is not covered by an existing unit	Newly created

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT4217 Apply a safety mindset in forestry operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has applied a safety mindset while working in forestry operations. Evidence must show that the individual has:

- demonstrated situational awareness in forestry operations
- made two safety related decisions in forestry operations
- maintained communication with team members while working in forestry operations
- applied safe work procedures on one occasion when working alone, in isolation or out-of-line-of-sight in forestry operations
- taken two actions to support safe teamwork in forestry operations
- applied one workplace procedure for dealing with stress, drug and alcohol use, remoteness or fatigue in self or others while working in forestry operations.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- hazards and associated risks in forestry operations:
 - types of hazards and associated risks
 - techniques for identifying hazards and assessing risks
 - procedures for reporting hazards and associated risks
 - risk assessment techniques
 - risk control measures for responding to known hazards
- principles of situational awareness and safety mindsets:
 - show vigilance when approaching known hazards
 - identify potential problems from available information
 - monitor changes in work environment

- resolve uncertainty by seeking further information
- verify assumptions before proceeding with work activities
- decision making in forestry operations:
 - techniques for decision making
 - types and sources of information used in making decisions related to forestry operations
- safe work procedures in forestry operations:
 - types and operation of safety monitoring systems
 - handover procedures
 - importance of communicating safety concerns openly
 - safe work procedures for working alone, in isolation or out-of-line-of-sight
 - workplace procedures for responding to incidents and emergencies in situations where team members are working alone, in isolation or out-of-line-of-sight
- type and operation of electronic communication and security systems related to forestry operations
- teamwork in forestry operations:
 - principles of effective teamwork
 - techniques for enhancing team awareness of work site safety and knowledge of safe work practices
- safety leadership:
 - features of safety culture in forestry operations
 - techniques for recognising and influencing other people's safety practices
- stress, fatigue and remoteness in forestry operations:
 - workplace procedures for avoiding, reducing and coping with stress, remoteness, alcohol and drug use and fatigue
 - signs of stress and fatigue in self and others
 - techniques for monitoring own and others' physical and psychological wellbeing
 - techniques for identifying personal limitations
- techniques for maintaining effectiveness and concentration under periods of stress and high workload.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forestry work site or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - electronic communications systems
- specifications:

- workplace policies and procedures applicable to safe team and lone work in remote forestry operations
- workplace documentation for identifying, assessing and responding to hazards and associated risks in forestry operations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT4218 Manage business operations of a forestry contractor business

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to manage the business operations of a forestry contractor business, including the development of strategic and operational plans and strategies for stakeholder engagement, marketing, tendering and service quality.

The unit applies to individuals who manage and operate forestry contractor businesses.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Set up strategic and operational plans for a forestry contractor business	1.1 Assess factors influencing the performance of a forestry contractor business 1.2 Identify the focus of the business by investigating market opportunities 1.3 Determine the most appropriate business and financial structure

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>for the forestry contractor business</p> <p>1.4 Develop a strategic plan for the forestry contractor business</p> <p>1.5 Develop a risk management strategy, including appropriate ways of mitigating risks for the operations of a forestry contractor business</p> <p>1.6 Establish a detailed operations plan that sets out clear action points to fulfil the strategic goals and objectives of the forestry contractor business</p>
2. Establish and implement stakeholder engagement strategy	<p>2.1 Identify key stakeholders that do or may impact on the operation and service delivery of the forestry contractor business</p> <p>2.2 Access and analyse information on the roles, influence and relative importance of key stakeholders</p> <p>2.3 Develop strategies for engaging with stakeholders</p> <p>2.4 Apply conflict resolution and negotiation techniques to reach mutually acceptable outcomes with stakeholders</p> <p>2.5 Identify and respond to factors that may negatively impact stakeholder communication</p> <p>2.6 Seek and analyse feedback on the effectiveness of the stakeholder engagement strategy</p>
3. Establish marketing strategy for forestry contractor business	<p>3.1 Develop the marketing strategy and plan for the forestry contractor business</p> <p>3.2 Develop, implement and monitor marketing activities according to the marketing plan</p> <p>3.3 Evaluate marketing activities to determine the effectiveness of the strategy and plan</p>
4. Establish sales and tendering strategy for forestry contractor business	<p>4.1 Identify the main features of the contract for forestry operations and the legal requirements and procedures relating to the commercial provision of forestry contractor services</p> <p>4.2 Promote forestry contractor services in compliance with legal requirements</p> <p>4.3 Maintain sales documentation according to legislative requirements</p> <p>4.4 Develop and implement procedures for identifying, evaluating and responding to tenders for the provision of forestry contractor services</p>
5. Negotiate with forest	5.1 Prepare for, undertake and finalise negotiations with forest

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
management companies, suppliers and other parties	management companies, suppliers and other parties according to organisational and legislative requirements 5.2 Employ effective communication and persuasive techniques and tactics to navigate difficult circumstances and achieve desired outcomes in negotiations 5.3 Ensure negotiation outcomes are documented, signed and exchanged between the forestry contractor business and other parties to the negotiation
6. Manage contracts for forestry contractor services	6.1 Implement a contract management strategy for a forestry contractor business 6.2 Monitor contract implementation to ensure that all obligations under the agreement are being met 6.3 Manage close-out and renewal of contract or transition to a new contract to provide forestry contractor services
7. Establish strategies for quality control in a forestry contractor business	7.1 Establish parameters for the delivery of quality forestry contractor services 7.2 Establish a quality management plan for the forestry contractor business 7.3 Apply procedures for identifying, assessing and responding to service quality issues 7.4 Evaluate the plan of the forestry contractor services and identify any opportunities for improvement

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Read complex texts and industry materials in print and electronic form to gather information related to the management of forestry contractor businesses
Writing	<ul style="list-style-type: none"> Take notes, record outcomes and prepare agreement based on outcomes of complex negotiations using paper-based and digital

Skill	Description
	technologies
Oral communication	<ul style="list-style-type: none"> Ask and respond to questions to clarify information and represent viewpoints to others on routine and non-routine matters related to the business operations of forestry contractor businesses Use appropriate technical language to describe activities in the forest and wood products industry
Numeracy	<ul style="list-style-type: none"> Interpret complex numerical and graphical information related to the business planning and business operations of forestry contractor businesses

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT4218 Manage business operations of a forestry contractor business	Not applicable	The unit has been created to address a skill or task required by industry that is not covered by an existing unit	Newly created

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT4218 Manage business operations of a forestry contractor business

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has reviewed two areas of business operations for one forestry contractor business selected from:

- strategic, operational and financial planning
- stakeholder management
- marketing strategies
- sales and tendering strategies
- business negotiations with external organisations
- contract management
- quality management

As a result of the review there must be evidence that the individual has completed two of the following tasks:

- prepared a written integrated strategic, operational and financial plan for a forestry contractor business
- prepared a written stakeholder management strategy for a forestry contractor business
- developed a written overall marketing strategy for a forestry contractor business
- prepared a written sales and tendering strategy for a forestry contractor business
- conducted negotiations with either a forest management company, supplier or other party on a matter related to the provision of forestry contractor services
- managed at least one contract for a forestry contractor service, including the management of the close-out and renewal of the contract or transition to a new contract for the provision of forestry contractor services
- prepared a written a quality management strategy for a forestry contractor business.

In undertaking each of these activities, the individual has:

- checked that the forestry contractor business complies with relevant legislative requirements

- reviewed the relevant business operation of the forestry contractor business
- benchmarked the business operations of the forestry contractor business
- identified business practices directed at improving the efficiency and effectiveness of existing business operations.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- strategic plan and operational planning for forestry contractor businesses
- business structures for forestry contractor businesses:
 - types of business structures
 - advantages and disadvantages of different business structures
- financial structures and responsibilities of forestry contractor businesses:
 - financial regulations and compliance requirements
 - sources of financial advice
 - types of financial reports and record-keeping
 - compliance requirements
- risk management for forestry contractor businesses:
 - types of risk
 - risk mitigation strategies
 - insurance requirements
- stakeholder management strategy:
 - strategies for engaging with stakeholders
 - techniques for managing stakeholder conflict
 - techniques for seeking and analysing feedback on the effectiveness of the stakeholder engagement strategy
- marketing strategies for forestry contractor businesses:
 - marketing techniques for forestry contractor businesses
 - ways of monitoring and evaluating effectiveness of marketing activities
- sales and tendering strategy for forestry contractor businesses
- negotiation, effective communication and persuasive techniques and tactics:
 - conflict resolution strategies
- contract management strategy for a forestry contractor business:
 - basic principles of contract law
- quality management strategy for forestry contractor businesses:
 - quality certification schemes in the forestry industry
 - quality principles, systems and plans
- procedures for identifying, assessing and responding to service quality issues.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - access to information on the business operations of a forestry contractor company
 - online access to reference materials related to the business operations of forestry contractor businesses
- specifications:
 - access to commonwealth and state legislation and regulations, codes of practice and industry guidelines relevant to the business operations of forestry contractors.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT4219 Manage people practices in a forestry contractor business

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to manage people practices in a forestry contractor business, including complying with legislative employment requirements, applying the principles of a fair, just and leadership culture, and managing the employee lifecycle.

The unit applies to individuals who manage and operate forestry contractor businesses.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1.1 Assess business compliance with requirements of Australian employment law	1.1 Identify the sources of employment law and the role of key regulatory institutions 1.2 Identify the relevance of key provisions of the Fair Work Act 2009 (Cth) to forestry contractor businesses 1.3 Outline key features of and difference between employment

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>contracts, awards and registered agreements</p> <p>1.4 Identify pay and conditions of work for employees in a forestry contractor business, and check for compliance with relevant employment agreements, awards and legislation</p> <p>1.5 Review policies, procedures and supporting documentation for all forms of employee, engagement, separation and termination of a forestry contractor business for compliance with legislative requirements</p> <p>1.6 Review policies, procedures and supporting documentation relating to workplace discrimination and bullying and harassment of a forestry contractor business for compliance with legislative requirements</p> <p>1.7 Identify potential consequences of non-compliance with Australian employment law</p> <p>1.8 Identify sources of advice and ways of maintaining ongoing compliance with Australian employment law</p>
2. Create a fair and just culture in a forestry contractor business	<p>2.1 Identify values, beliefs and behaviours and role they play in shaping organisational culture of business</p> <p>2.2 Identify key features and principles of fair and just organisational culture</p> <p>2.3 Assess strategies for creating fair and just organisational culture in forestry contractor business</p> <p>2.4 Identify responsibilities of business owners, managers and employees in creating and maintaining fair and just organisational culture</p> <p>2.5 Apply principles of fair and just culture in making decisions when employees have acted in ways that are inconsistent with values and policies of forestry contractor business</p> <p>2.1 Identify values, beliefs and behaviours and role they play in shaping organisational culture of business</p> <p>2.2 Identify key features and principles of fair and just organisational culture</p> <p>2.3 Assess strategies for creating fair and just organisational culture in forestry contractor business</p> <p>2.4 Identify responsibilities of business owners, managers and employees in creating and maintaining fair and just organisational culture</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	2.5 Apply principles of fair and just culture in making decisions when employees have acted in ways that are inconsistent with values and policies of forestry contractor business
3. Manage employee lifecycle in a forestry contractor business	<p>3.1 Identify key stages of employee lifecycle in a forestry contractor business</p> <p>3.2 Establish succession plan for key roles in a forestry contractor business</p> <p>3.3 Review recruitment and onboarding policies, procedures and supporting documentation of forestry contractor business, and assess options for improving efficiency and effectiveness of existing processes</p> <p>3.4 Review staff training and development policies, procedures and supporting documentation of forestry contractor business, and assess options for improving the efficiency and effectiveness of existing processes</p> <p>3.5 Review staff retention policies, procedures and supporting documentation of forestry contractor business, and assess options for improving the efficiency and effectiveness of existing processes</p> <p>3.6 Review staff separation policies, procedures and supporting documentation of forestry contractor business, and assess options for improving the efficiency and effectiveness of existing processes</p> <p>3.7 Identify sources of advice on managing employee lifecycle in forestry contractor business</p>
4. Provide leadership and management in a forestry contractor business	<p>4.1 Model high standards of performance and ethical behaviour in operating forestry contractor business</p> <p>4.2 Provide leadership, direction and guidance to staff members of forestry contractor business</p> <p>4.3 Manage and monitor team performance in forestry contractor business</p> <p>4.4 Review performance management policies, procedures and supporting documentation of forestry contractor business, and assess options for improving efficiency and effectiveness of existing processes</p> <p>4.5 Plan, implement and monitor change management strategies associated with employee lifecycle within a forestry contractor business</p> <p>4.6 Identify sources of advice on leading and managing forestry</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	contractor business

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Read complex texts and industry materials in print and electronic form to gather information related to people practices in forestry contractor businesses
Writing	<ul style="list-style-type: none"> Prepare complex written documents, including policy and procedures, for forestry contractor businesses
Oral communication	<ul style="list-style-type: none"> Ask and respond to questions to clarify information and represent viewpoints to others on routine and non-routine matters related to the people practices of forestry contractor businesses Use appropriate technical language to describe activities in the forest and wood products industry
Numeracy	<ul style="list-style-type: none"> Interpret complex numerical and graphical information related to planning and reviewing people practices of forestry contractor businesses

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT4219 Manage people practices in a forestry contractor business	Not applicable	The unit has been created to address a skill or task required by industry that is not covered by an existing unit	Newly created

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT4219 Manage people practices in a forestry contractor business

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has reviewed and identified improvements to two aspects of the people practices for one forestry contractor business selected from:

- employment policies and procedures
- creating a fair and just organisational culture
- succession planning for key roles
- recruitment, onboarding, development, retention and separation policies and procedures
- managing team performance
- change management.

In undertaking this activity, the individual has:

- checked that the forestry contractor business complies with relevant legislative requirements
- reviewed the relevant policy and procedures of the forestry contractor business
- benchmarked the people practices of the forestry contractor business
- identified options for improving the efficiency and effectiveness of existing people practices.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- employment law:
 - sources of employment law
 - role of key regulatory institutions
 - key provisions of the Fair Work Act 2009 (Cth) and relevance to forestry contractor businesses

- ways of determining pay and conditions of work for employees in a forestry contractor business as defined in employment agreements, awards and legislation
- legislative requirements related to employee separation and termination
- legislative requirements related to workplace discrimination and bullying and harassment
- consequences of non-compliance with Australian employment law
- sources of advice and ways of maintaining ongoing compliance with Australian employment law
- fair and just culture:
 - role of values, beliefs and behaviours in shaping fair and just organisational culture
 - strategies for creating a fair and just organisational culture in a forestry contractor business
 - responsibilities of business owners, managers and employees in creating and maintaining a fair and just organisational culture
 - techniques and tools for making fair and just decisions regarding employee behaviour
- employee lifecycle:
 - stages in employee lifecycle in forestry contractor business – attraction, recruitment, onboarding, development, retention, separation
 - reasons for and approaches to implementing each stage of the employee lifecycle
 - sources of advice on managing employee lifecycle in a forestry contractor business
- leadership and management of forestry contractor businesses:
 - features of effective leadership and management
 - ways of modelling high standards of performance and ethical behaviour
 - communication methods, communication barriers and strategies to improve workplace communication
 - qualities of effective teams and approaches to managing and monitoring individual and team performance
 - reasons for and approaches to giving and receiving feedback from employees
 - effective ways of planning, implementing and monitoring change.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - information on the people practices of a forestry contractor company
 - online access to reference materials related to the people practices of forestry contractor businesses
- specifications:

- commonwealth and state legislation and regulations, codes of practice and industry guidelines relevant to the people practices of forest contractors.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT4220 Plan for and coordinate log loading and haulage operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to plan for and coordinate log loading and haulage operations to facilitate the movement of logs from a native forest or plantation to an end point for processing.

The unit applies to individuals who plan and coordinate log loading and haulage operations.

All work must be carried out to comply with workplace procedures according to state/territory health and safety and food safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Check access and landing areas used for	1.1 Inspect access and landing area to identify risks that may lead to

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
loading operations	<p>vehicle collisions and/or vehicle instability</p> <p>1.2 Check loading area to identify factors that may adversely impact on the effectiveness of on-board mass management systems such as load scales</p> <p>1.3 Confirm that the loading area surface is stable and is not subject to excessive compaction during loading operations that may result in on-board mass systems providing inaccurate axle mass information</p> <p>1.4 Consult with relevant personnel to confirm the maximum cross fall slope of landings and log loading areas for the effective operation of on-board mass management systems</p> <p>1.5 Confirm that the layout of the loading area does not adversely impact on the ability of both the loader and the driver to inspect the load configuration and to ensure that load restraint and load dimensions are correct</p>
2. Plan and select log haulage route	<p>2.1 Plan route, taking into account regulatory requirements, mass, dimension, fatigue and the correct matching of vehicle class, configuration, length and roadway</p> <p>2.2 Establish routes that minimise potential risks by assessing and taking into account weather conditions, changes in log dimensions, frequency of vehicles accessing the route, speed, fatigue, availability of locations to inspect load conditions and community activity on intended route</p> <p>2.3 Consult with other key parties, where possible, to integrate feedback relating to route planning and selection to reduce risks and inform future route planning</p> <p>2.4 Ensure near miss reporting systems are in place to permit feedback from drivers and others on risks impacting on the route and inform future route planning</p> <p>2.5 Inform driver and other relevant personnel of the selected route and associated conditions and timing for log haulage task</p>
3. Select haulage vehicle compatible with load	<p>3.1 Identify mass and dimensions of intended load</p> <p>3.2 Determine the appropriate vehicle for the haulage task</p> <p>3.3 Check that vehicle maintenance and pre-start check schedules are up-to-date and appropriate for the operating environment</p> <p>3.4 Confirm that the intended load can be transported in accordance with loading and stability requirements</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	3.5 Inform relevant parties if the intended load type is in breach of loading requirements
4. Coordinate and monitor implementation of log loading and haulage operations	<p>4.1 Plan rosters and schedules that meet contracted haulage requirements and which ensure that drivers do not exceed regulated driving hours, exceed speed limits, fail to meet minimum rest requirements or drive while impaired by fatigue</p> <p>4.2 Maintain records of drivers' activities, including work and rest times, according to workplace procedures</p> <p>4.3 Coordinate implementation and monitoring of procedures to ensure driver compliance with onsite traffic management plan</p> <p>4.4 Coordinate implementation and monitoring of procedures to ensure drivers do not work while impaired by fatigue or drive in breach of their work or rest options</p> <p>4.5 Coordinate implementation and monitoring of procedures to ensure vehicles are regularly maintained and that speed limiters, if fitted, function properly</p> <p>4.6 Coordinate implementation and monitoring of procedures to ensure that vehicles are safely loaded in a way that does not exceed mass or dimension limits</p> <p>4.7 Coordinate implementation and monitoring of procedures to ensure that drivers moving freight containers have a valid Container Weight Declaration</p> <p>4.8 Coordinate implementation and monitoring of procedures to ensure that loads are appropriately restrained with appropriate restraint equipment</p> <p>4.9 Coordinate implementation and monitoring of procedures to minimise environmental impact of loading and haulage operations</p> <p>4.10 Report to relevant personnel on implementation of log loading and haulage operations</p>
5. Participate in load audits	<p>5.1 Participate in load audits on a regular scheduled basis</p> <p>5.2 Use information derived from load audits to identify risks relating to particular haulage tasks and use this information to inform future planning</p>
6. Develop lead risk indicators and participate in incident reporting	<p>6.1 Ensure systems are in place for effective near miss reporting for the freight task/s by drivers and others</p> <p>6.2 Ensure that drivers are aware of their responsibilities for reporting</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>near misses</p> <p>6.3 Monitor outcomes of near miss reports to develop lead indicators for freight task/s</p> <p>6.4 Communicate lead indicators for the freight task/s to relevant parties that can influence the risk and control measures</p> <p>6.5 Ensure systems are in place for effective incident reporting and subsequent investigation/s</p> <p>6.6 Ensure incidents are assessed for actual or potential severity and suitable levels of investigation applied</p> <p>6.7 Record and analyse information on near misses, lead indicators and incidents and report to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Read complex texts and industry materials in print and electronic form to gather information related to planning log loading and haulage operations
Writing	<ul style="list-style-type: none"> Complete forms and prepare workplace reports related to log loading and haulage operations
Oral communication	<ul style="list-style-type: none"> Ask and respond to questions to clarify information related to log loading and haulage operations Use appropriate technical language to describe log loading and haulage operations
Numeracy	<ul style="list-style-type: none"> Interpret complex numerical and graphical information related to near misses and incidents associated with log loading and haulage operations

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT4220 Plan for and coordinate log loading and haulage operations	Not applicable	The unit has been created to address a skill or task required by industry that is not covered by an existing unit	Newly created

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT4220 Plan for and coordinate log loading and haulage operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has planned and coordinated one log loading and haulage operation to enable the movement of logs from a native forest or plantation to a processing facility, including:

- verified and confirmed that access and landing area meet requirements for log loading
- selected log haulage route according to regulatory requirements and vehicle and load characteristics
- verified that selected vehicle is suitable for the haulage task
- supervised log loading and haulage operations to ensure drivers followed the onsite traffic management plan, fatigue management plan, standards for safe load limits and load restraint methods and vehicle maintenance procedures, as well as practices for minimising environmental impact of loading and haulage operations
- established, assessed and reported outcomes of a near miss reporting system for drivers.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- log loading and haulage regulations and codes of practice
- factors to consider in checking access and landing areas:
 - minimise risk of vehicle collisions
 - maximise vehicle stability
 - maximise the effectiveness of on-board mass management systems such as load scales
 - ensure loading areas have surfaces that provide a stable area for loading of vehicles
 - cross fall slope of landings and log loading areas
 - maximise the ability of the loader and driver to inspect the load configuration to ensure load restraint and load dimensions are correct

- factors to consider in scheduling and routing:
 - mass and dimension of load
 - fatigue
 - correct matching of vehicle class, configuration, length and roadway permitting
 - permissible Gross Vehicle Mass (GVM)
 - Restricted Access Vehicles (RAV) network
- risks associated with scheduling and routing:
 - weather conditions
 - changes in log dimensions
 - frequency of vehicles accessing the route
 - speed
 - fatigue
 - availability of locations to inspect load conditions
 - community activity on intended route
- types, features and functions of on-board mass management systems
- near miss and incident reporting systems
- uses of near miss and incident data
- fatigue management guidelines
- procedures for:
 - determining appropriate vehicle for haulage task
 - vehicle maintenance
 - safe loading and unloading
 - moving freight containers
 - restraining loads
 - load audits
- vehicle capabilities and capacities
- load restraint standards and techniques
- mathematical procedures for calculating load sizes, estimating and recording weights, load restraint requirements, and work and rest times.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - requirements for a log loading and haulage operation
 - computing hardware and software for documenting plans and reports related to log loading and haulage operations

- reference materials, including harvest plan, topographic maps, road maps, haulage vehicle configuration, fatigue management and near miss and incident data
- access to site for log loading and haulage operation
- crew and infrastructure for log loading operation
- specifications:
 - access to workplace standards, policies and procedures for log loading and haulage operations
 - access to commonwealth, state, territory or local government regulations and codes of practice relevant to log loading and haulage operations
 - access to workplace health and safety policies and procedures applicable to log loading and haulage operations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT4221 Plan for and supervise log yard operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to manage log yard operations. This involves planning according to schedules and performance indicators, supervising plant operations, managing log stock, monitoring and assessing log yard processes and identifying process improvement.

The unit applies to individuals who are engaged in the planning and supervision of log yard operations in the forest and wood products industry.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan log yard operations	1.1 Review log yard procedures, production requirements and confirm schedules, targets, specifications and performance indicators 1.2 Confirm workplace health and safety, quality and environmental

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>protection practices and/or procedures</p> <p>1.3 Identify hazards and associated risks and implement corrective actions according to workplace procedures</p> <p>1.4 Inspect raw materials, identify possible production and quality implications and communicate variations to production methods to team members</p> <p>1.5 Confirm legislation, standards and codes of practice relevant to log yard operations</p> <p>1.6 Communicate schedule, targets, specifications and performance indicators to team members</p> <p>1.7 Maintain communication with team members to ensure production schedule and workplace health and safety, environmental protection and quality requirements are met</p>
2. Supervise log yard operations	<p>2.1 Monitor workflow and operations and check that schedule, targets, performance indicators, environmental protection requirements and product specifications are met</p> <p>2.2 Coordinate operation of plant involved in unloading and feeding logs into sawmill and the stacking, segregation and storage of logs to optimise workflow</p> <p>2.3 Coordinate management of log stocks to avoid degradation, identify out-of-specification logs, confirm log grades against quality requirements and maintain inventory levels</p> <p>2.4 Monitor log yard to identify operational problems, vehicle movements, in-flow management and raw material availability, and implement appropriate remedial actions</p> <p>2.5 Monitor implementation of quality processes and chain of custody requirements</p> <p>2.6 Evaluate effectiveness of operational processes at key points</p> <p>2.7 Modify operational processes or schedules, as required, to ensure optimum performance</p> <p>2.8 Monitor implementation of processes for reuse, recycling or disposal of sub-standard logs</p> <p>2.9 Respond to breakdowns, disruptions to operations and unplanned events according to workplace procedures</p> <p>2.10 Direct logs to storage or transfer for further processing</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
3. Oversee log yard maintenance and inventory requirements	3.1 Monitor implementation of routine log yard maintenance requirements 3.2 Maintain product and material inventory levels to meet production and contingency requirements
4. Evaluate log yard operations	4.1 Analyse data and observations on operations, faults, output and health and safety indicators to identify opportunities for process improvement 4.2 Report on production, health and safety, environmental protection and quality metrics to appropriate personnel according to workplace procedures 4.3 Seek comments and feedback from team members to identify opportunities for process improvement 4.4 Analyse feasibility of potential process improvements 4.5 Document process improvements and communicate to appropriate personnel according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Read technical documents and workplace policies and procedures relevant to log yard operations
Writing	<ul style="list-style-type: none"> Complete workplace documents on routine and non-routine matters for a variety of audiences
Oral communication	<ul style="list-style-type: none"> Use appropriate vocabulary to communicate on technical and work team performance matters related to log yard operations
Numeracy	<ul style="list-style-type: none"> Analyse statistical data on production, quality, safety and environmental protection relevant to log yard operations

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT4221 Plan for and supervise log yard operations	FWPCOT4205 Coordinate log debarking operations	Unit redeveloped to increase its application and address a relevant skill or task that is required by industry	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT4221 Plan for and supervise log yard operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has planned and supervised the operations of a log yard for two production cycles.

In performing this task, the individual has:

- communicated effectively and coordinated personnel to follow log yard planning, workplace procedures, including health and safety, environmental protection, quality and scheduling requirements
- complied with legislation, standards and codes of practice relevant to log yard operations
- monitored log yard operations against log yard schedule, targets, specifications and performance indicators and identified and rectified operational and equipment problems and faults
- monitored implementation of quality processes, including chain of custody requirements
- recorded and reported operations information, including output, quality, faults and safety data
- evaluated log yard operations and suggested one process improvement.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- legislation, standards and codes of practice relevant to log yard operations
- hazards and associated risks with log yard operations, and risk control strategies identified through risk assessments, manufacturer technical information, regulations and industry health and safety guides
- workplace procedures specific to planning and coordinating log yard operations, including:
 - health and safety, including use of personal protective equipment (PPE)

- environmental protection requirements and practices, including safe disposal of waste material
- quality assurance, including chain of custody requirements
- communication channels and protocols to communicate with team members
- recording and reporting information on output, quality, workplace health and safety and equipment faults
- types of log yards, including:
 - traditional mill log yards
 - concentration log yards
 - log reload yards
- purpose of log yards, including:
 - connect raw material supply to manufacturing processes
 - maintain log quality
- log yard layout
- log yard functions, including:
 - unloading/reloading
 - transport
 - debarking
 - grading
 - scaling
 - sorting
 - log storage
 - residue and waste management
- management of log stocks, including:
 - safely stacked and segregated
 - avoid degradation
 - identify out-of-specification logs
 - confirm log grades against quality requirements
 - maintain inventory levels
- role and responsibilities of log yard supervisor
- types, uses and operation of plant, machinery and equipment used in log yard operations
- log yard operational problems, including:
 - vehicle movement planning within log yard
 - empty trips
 - seasonality of raw material availability
 - log yard shape
 - in-flow management
 - poor surface material
- strategies to avoid log degradation, including:
 - plant and processing defects

- stock rotation
- stones
- barked
- debarked
- antiseptic treated
- methods for problem identification, including for equipment failures and bottlenecks in production process, and resolution strategies
- process improvement for log yard operations, including:
 - data
 - methods
 - participative approaches
 - communication.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing plant, log yard plant or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - log yard and associated equipment
 - computers, keyboards, printers and software used to prepare planning and production documents
 - PPE relevant to log yard operations
- specifications:
 - log yard production schedule
 - templates for documenting relevant information on the log yard production and operations
 - workplace procedures for log yard operations
 - workplace health and safety and environmental policies and/or procedures applicable to log yard operations
- relationships:
 - work team for communicating requirements related to log yard operations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT4222 Plan for and supervise timber treatment plant operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to plan, supervise and optimise performance of timber treatment plant operations.

The unit applies to those individuals who supervise the chemical treatment of timber in a preservation facility.

State and territory regulations, standards and environmental protection licences apply in some jurisdictions to the timber preservation facilities and the use of chemicals used in timber treatment.

Copper chrome arsenate (CCA) is a restricted chemical product, regulated by the Australian Pesticides and Veterinary Medicines Authority (APVMA). This means CCA-treated timber can only be supplied to, and used by, suitably trained persons authorised under a relevant state or territory law.

In Victoria, to comply with licence/permit requirements, organisations must ensure that employees working with CCA demonstrate competence in FWPSAW3242 Treat timber (or the previous equivalent) or are under the direct supervision of a trained and authorised person.

For regulatory information and details in other states and territories, refer to the state or territory licensing body.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan for implementing treatment plant operations	<p>1.1 Confirm workplace health and safety, environmental protection, containment, quality and operational practices and/or procedures for chemical treatment of timber</p> <p>1.2 Identify hazards, assess potential risks and confirm risk mitigation measures, including use of personal protective equipment, associated with timber treatment operations</p> <p>1.3 Confirm legislation, standards and codes of practice relevant to timber treatment plant operations</p> <p>1.4 Confirm type, components, operating parameters, capability and capacity of treatment plant</p> <p>1.5 Inspect raw materials, identify possible production and quality implications and communicate variations to production methods to team members</p> <p>1.6 Assess preservative type and formulation, treatment process, treatment suitability of wood and estimate solution absorption</p> <p>1.7 Apply timber treatment schedules according to workplace procedures and environmental protection practices and/or procedures</p> <p>1.8 Plan and prescribe waste minimisation and control measures</p> <p>1.9 Check serviceability of plant control and product testing equipment</p> <p>1.10 Establish and maintain communication with others according to workplace procedures and workplace health and safety requirements</p>
2. Supervise treatment plant operations	<p>2.1 Check and interpret charge sheets and reconciliation statements to ensure accuracy</p> <p>2.2 Check and analyse process trends for optimum performance</p> <p>2.3 Monitor treatment operations and output to record possible process improvements and to ensure maximum cost effectiveness</p> <p>2.4 Control non-conforming treated timber according to workplace procedures and environmental protection practices and/or procedures</p> <p>2.5 Investigate causes of solution imbalance and implement appropriate possible corrective actions</p> <p>2.6 Investigate, record and report treatment operations, operational problems and equipment faults according to workplace requirements</p> <p>2.7 Analyse treatment documents and reconciliations to identify</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	potential productivity improvements
3. Oversee treatment plant maintenance and inventory management requirements	3.1 Monitor implementation of routine and preventative maintenance and cleaning requirements 3.2 Maintain product and material inventory levels to meet production and contingency requirements
4. Modify operations to optimise performance	4.1 Initiate approved modifications to schedules to ensure optimum performance according to workplace procedures 4.2 Document and communicate treatment improvement modifications according to workplace procedures 4.3 Diagnose developments in treatment processes and related technology for possible implementation 4.4 Analyse and assess technical developments for potential incorporation into existing plant operations and procedures 4.5 Authorise, trial, document and introduce proposed developments into site operations 4.6 Dispose of timber from unsuccessful trials according to workplace procedures and environmental protection practices and/or procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extract routine information from industry guides and standard references on timber treatment operations
Writing	<ul style="list-style-type: none"> Complete workplace reports legibly and accurately with correct details of timber treatment
Oral communication	<ul style="list-style-type: none"> Ask open and closed questions and use active listening techniques to clarify contents of work orders and to convey information
Numeracy	<ul style="list-style-type: none"> Interpret numerical data and trends relevant to timber treatment operations

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT4222 Plan for and supervise timber treatment plant operations	FWPSAW4201 Plan and monitor timber treatment plant operations	Revised unit title Minor revisions to Application Added new Elements and Performance Criteria Revised Foundation Skills Revised Performance Evidence Added new Knowledge Evidence Revised Assessment Conditions	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT4222 Plan for and supervise timber treatment plant operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has planned and supervised a timber treatment operation for two production cycles.

In performing this work, the individual has:

- followed workplace policies and procedures relevant to planning and monitoring timber treatment plant operations
- complied with legislation, standards and codes of practice relevant to timber treatment plant operations
- assessed, scheduled and applied treatment plant procedures for timber samples
- monitored treatment plant performance and modified operations as required
- analysed and assessed technical developments for incorporation into existing operations and procedures
- mapped processing conditions to establish trends and use this information for modifications
- modified timber treatment plant operations for the workplace, as required
- followed planning, communications and scheduling requirements for timber treatment plant operations
- completed charge sheets to complete records of:
 - treatment plant charge
 - amount of power and energy developed and used
- completed reconciliation statements detailing:
 - chemical usage and cost
 - treatment times for cycles
 - breakdown losses
 - energy costs
 - modification expenses.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- workplace standards, requirements, policies and procedures for planning and monitoring timber treatment plant operations
- legislation, standards and codes of practice relevant to timber treatment operations
- environmental protection requirements and practices, including:
 - safe disposal of waste material
 - water management
 - safe use and storage of chemicals
 - minimisation of carbon emissions
 - water management
- hazards and potential risks associated with timber treatment operations, including chemical hazards and actions to mitigate risks associated with chemical use
- principles and purpose of treatment processes and their effect on wood impregnation
- advantages and limitations of different treatment processes
- types of biological attack and their impact in terms of visual appearance and degrading effect on wood, including:
 - decay
 - mould
 - fungi
- effect of surface mould and sapstain fungi on treatment uptake
- influence of moisture content and moisture gradient on treatment effectiveness
- operating parameters, capability and capacity of the treatment plant
- operating components of treatment plant
- plant control and product testing equipment
- factors for consideration when scheduling charges to optimise production throughputs
- preservative types and formulations
- causes of solution imbalance and possible corrective actions
- typical workflow processes and techniques for chemically treating timber, including:
 - full cell
 - modified cell
 - empty cell
 - double vacuum
 - immersion
 - rueping
 - dip diffusion
 - vat and sprays
- moisture content of timber for treatment
- effective and efficient use of energy and materials
- timber treatment plant operation procedures

- water management methodologies
- waste minimisation control measures
- treatment plant modification strategies
- technical development diagnosis and solution methodologies
- types of tools and equipment and procedures for their safe use, operation and maintenance
- procedures for recording and reporting workplace information
- maintenance requirements for treatment plants.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber treatment plant or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - timber treatment plant and associated equipment and materials
 - a suitably licensed person to monitor and supervise handling of copper chrome arsenate (CCA) during assessment, where CCA is used
 - personal protective equipment required for chemically treating timber
- specifications:
 - workplace health and safety and environmental protection policies and/or procedures applicable to chemically treating timber
 - templates or formats for records including charge sheets and reconciliation statements
 - workplace procedures for chemically treating timber
 - manufacturer safety data sheets for chemicals and preservative solutions.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT4223 Assess requirements of chain of custody certification scheme for forest and wood products

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to identify and review the requirements of a chain of custody certification scheme operated by existing certification bodies for application in a forest or wood products business.

The unit applies to individuals who are responsible for the implementation and monitoring of chain of custody certification in forest and wood procurement, processing, sales and distribution operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Confirm purpose, key functions and distinct	1.1 Distinguish between forest management certification and chain of

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
features of chain of custody certification schemes	custody certification 1.2 Outline objectives of chain of custody certification and benefits for different stakeholders 1.3 Assess features, relative benefits and requirements of chain of custody certification schemes 1.4 Distinguish between standards setting, certification and accreditation functions in chain of custody schemes 1.5 Assess features and benefits of chain of custody implementation methods, including physical separation, percentage and credit methods 1.6 Confirm legislation, standards and codes of practice relevant to chain of custody operations 1.7 Assess position of own organisation in supply chain and determine current and likely future sources of supply, destinations of certified products and relevance of each scheme to own organisation
2. Review chain of custody certification scheme requirements	2.1 Investigate components of chain of custody scheme and roles and responsibilities of personnel required to support chain of custody implementation and monitoring in the workplace 2.2 Confirm chain of custody certification process and period of certification 2.3 Identify standards that must be met to achieve and maintain chain of custody certification 2.4 Identify types and purposes of documents and registers that must be maintained for certification 2.5 Identify product groups covered by chain of custody certification 2.6 Confirm types, meanings and conditions of use of chain of custody logos, trademarks and labels 2.7 Access and assess sources of information on chain of custody certification
3. Gather information on internal and external audit processes for chain of custody certification scheme	3.1 Confirm internal audit requirements for own organisation, suppliers and contractors for relevant chain of custody certification scheme 3.2 Identify external audit requirements for relevant chain of custody certification scheme

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none">Interpret and analyse key information in chain of custody certification documentation
Writing	<ul style="list-style-type: none">Take clear, sequenced notes on requirements of chain of custody certification
Oral communication	<ul style="list-style-type: none">Ask questions using technical language to clarify requirements (and unfamiliar concepts) relating to chain of custody certification

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT4223 Assess requirements of chain of custody certification scheme for forest and wood products	Not applicable	The unit has been created to address a skill or task required by industry that is not covered by an existing unit	Newly created

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT4223 Assess requirements of chain of custody certification scheme for forest and wood products

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has identified and documented the certification requirements for one chain of custody certification scheme applicable to a wood products business in relation to the following:

- standards to be met
- certification process
- legislation, standards and codes of practice relevant to chain of custody operations
- roles and responsibilities of personnel, suppliers and contractors
- sources of supply and destinations of certified products
- certification logos, trademarks and labels
- documentation to be maintained.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- purpose of chain of custody certification
- distinction between forest management certification and chain of custody certification
- objectives of chain of custody certification
- legislation, standards and codes of practice relevant to chain of custody operations
- social, economic and environmental benefits of chain of custody for forest and wood products industry, enterprises and consumers
- features, requirements and relative benefits of certification schemes
- chain of custody certification standards
- chain of custody certification bodies, including:
 - role

- objectives
- functions in chain of custody schemes, including:
 - standards setting
 - certification
 - accreditation functions
- key components of chain of custody system, including:
 - system for purchasing, acquiring and receipting certified materials
 - system for handling certified material, including methods for keeping them separated from non-certified materials
 - system for providing certified material to customers
- roles and responsibilities of personnel responsible for chain of custody implementation and monitoring in the workplace
- chain of custody certification process and period of chain of custody certification
- chain of custody certification requirements, including:
 - workplace chain of custody procedures
 - due diligence
 - responsible sourcing, including information requirements and verification of certification claims by suppliers
 - classification of materials (certified, neutral and other)
 - controlled sources
 - traceability
 - chain of custody implementation methods (physical separation, percentage and credit method)
 - record-keeping, including storage, retrieval and minimum maintenance period
 - staff and management training plan and training materials
 - subcontracting and outsourcing arrangements
- product groups, including:
 - types of product groups
 - certification requirements
 - procedures for identifying products covered by chain of custody certificates
 - procedures for sites that use different chain of custody methods for different product groups
- types, meaning and conditions of use of chain of custody logos and labels
- format, content and use of chain of custody workplace documents used for certification, audit and quality purposes, including:
 - timber source documents
 - processing records
 - quality records
 - numbering and labelling documents
- chain of custody internal audit processes, including:
 - purpose of internal audits

- scheduling of audits
- role of internal auditors
- process, documentation and reporting
- requirements for and methods of responding to non-compliances and process improvements identified by audit
- audit requirements for contractors and outsourcing arrangements
- chain of custody external audit processes, including:
 - purpose
 - timing and procedures
 - role of workplace personnel in external audits.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in timber and wood product work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - internet access and computer equipment to research information on chain of custody certification scheme
- specifications:
 - chain of custody certification scheme documentation including policy, procedures and standards.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT4224 Conduct internal audit of chain of custody certification for forest and wood products

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to plan and implement an internal audit of chain of custody certification in a forest or wood products business.

The unit applies to quality assurance personnel, managers and other personnel who are responsible for scheduling, preparing for and conducting internal audits of chain of custody certification in forest and wood product procurement, processing, sales and distribution operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication. Individuals must comply with any qualification requirements for internal auditors set by the relevant chain of custody certification body.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan internal audit of	1.1 Identify all requirements to be included in internal audit according

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
chain of custody certification	<p>to workplace and certification body policies and procedures</p> <p>1.2 Confirm legislation, standards and codes of practice relevant to chain of custody operations</p> <p>1.3 Prepare audit schedule to ensure that all requirements are audited at a frequency commensurate with risk</p> <p>1.4 Confirm objectives, scope and criteria of audit according to chain of custody certification scheme and workplace requirements</p> <p>1.5 Inform audit team of objectives, scope and criteria of audit and importance of ethical behaviour, as required</p> <p>1.6 Identify procedures, records and documentation required for internal audit</p> <p>1.7 Confirm all sites, business units and personnel that will be included in audit scope, including contractors and organisations performing outsourced functions, if required</p> <p>1.8 Develop checklists and document evidence collection methods and sources to be used during audit according to chain of custody certification scheme and workplace requirements</p> <p>1.9 Review documents prior to conduct of internal audit</p>
2. Conduct internal audit of chain of custody certification	<p>2.1 Inform relevant parties of purpose, scope and criteria for audit, audit methods, and procedures for reporting and following up results</p> <p>2.2 Conduct audit in accordance with chain of custody certification scheme and workplace requirements</p> <p>2.3 Use effective communication and negotiation skills when interacting with others while conducting the audit</p> <p>2.4 Collect verifiable objective evidence against audit criteria</p> <p>2.5 Make findings using objective evidence against audit criteria</p> <p>2.6 Identify and categorise non-conformances according to chain of custody certification scheme and workplace requirements</p> <p>2.7 Record audit activities</p>
3. Report outcomes of internal audit of chain of custody certification	<p>3.1 Document objective evidence according to chain of custody certification scheme and workplace requirements</p> <p>3.2 Prepare audit report detailing areas audited, audit findings and non-conformances where applicable</p> <p>3.3 Maintain records of audit process, objective evidence and findings</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	3.4 Report audit findings according to chain of custody certification scheme and workplace requirements
4. Confirm implementation of corrective action	4.1 Verify the implementation and effectiveness of recommended corrective actions 4.2 Maintain records of effectiveness of corrective actions

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret and analyse workplace documents used in internal audit of chain of custody certification
Writing	<ul style="list-style-type: none"> Compile written notes and prepare reports used in internal audit process
Oral communication	<ul style="list-style-type: none"> Ask questions using appropriate language to clarify workplace processes and obtain information relevant to audit
Numeracy	<ul style="list-style-type: none"> Interpret graphical and statistical information in workplace records relevant to internal audit procedures for chain of custody certification

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT4224 Conduct internal audit of chain of custody certification for forest and wood products	Not applicable	The unit has been created to address a skill or task required by industry that is not covered by an existing unit	Newly created

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT4224 Conduct internal audit of chain of custody certification for forest and wood products

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has conducted one internal audit of chain of custody certification in either a forest and wood processing, sales or distribution business.

In performing this task, the individual has:

- sourced standards and internal audit requirements for the relevant chain of custody certification scheme
- complied with legislation, standards and codes of practice relevant to chain of custody operations
- communicated the internal audit process, requirements and findings to workplace personnel
- planned the internal audit
- explained features of ethical behaviour to audit team
- applied communication and negotiation skills to facilitate internal audit processes, including conducting one-on-one and group meetings and applying conflict resolution skills, as required
- identified and followed an audit trail
- identified, collected and analysed evidence
- gathered, analysed, recorded and distributed internal audit data using business information systems
- interpreted evidence and made compliance judgements
- prepared factual and objective written internal audit reports
- recommended corrective actions, if required
- verified implementation of corrective actions, if required.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- legislation, standards and codes of practice relevant to chain of custody operations, including current Australian Standard on internal auditing requirements
- ethical behaviour of internal auditors, including:
 - integrity
 - objectivity
 - confidentiality
 - competency
- purpose of internal audit of chain of custody certification
- chain of custody certification, including:
 - purpose of certification
 - roles and responsibilities of personnel responsible for chain of custody implementation and monitoring in workplace
 - chain of custody certification process and period of chain of custody certification
 - certification documentation, including product groups
 - chain of custody certification bodies and schemes
 - functions in chain of custody schemes
- key components of chain of custody system, including:
 - system for purchasing, acquiring and receipting certified materials
 - system for handling certified material and reason for separating from non-certified materials
 - system for providing certified material to customers
- chain of custody certification requirements, including:
 - workplace chain of custody procedures
 - responsible sourcing, including information requirements and verification of certification claims by suppliers
 - classification of materials (certified, neutral and other)
 - controlled sources
 - traceability
 - chain of custody implementation methods (physical separation method, percentage-based method and credit method)
 - types, meaning, conditions of use and correct use of chain of custody trademarks, logos and labels
- format, content and use of chain of custody workplace documents used for certification, audit and quality purposes, including:
 - timber source documents
 - receipts
 - processing records
 - quality records

- numbering and labelling documents
- workplace and chain of custody certification scheme internal audit requirements and processes, including:
 - scheduling of audits
 - role of internal auditors
 - process, documentation and reporting
 - procedures for multi-site audits
 - reasons for inclusion of contractors and organisations providing outsourced functions in internal audits
 - requirements for and methods of responding to non-compliances and process improvements identified by audit
 - relationship between internal and external audit processes
 - information needs and communication methods relevant for different groups and audience engaged in internal audit process
 - evidence appropriate for use in internal audit of chain of custody certification for forest and wood products
 - evidence collection methods
 - key features of legislation that impacts on the conduct of internal audit procedures, including privacy, workplace health and safety and anti-discrimination legislation
 - structure, authority levels and lines of reporting in workplace
 - vocabulary and terms relating to chain of custody certification for forest and wood products.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber and wood products work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - internet access and computer equipment to research information on chain of custody certification scheme
- specifications:
 - workplace documentation relevant to operation of chain of custody certification scheme
 - chain of custody certification scheme documentation, including policy, procedures and standards
 - templates or formats for collecting evidence and completing audit report.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT4225 Apply principles of pneumatics and hydraulics to analyse potential equipment failures

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to apply the basic principles and applications of hydraulic and pneumatic systems and components of forest and wood products equipment to analyse potential pneumatic and/or hydraulic failures for supporting maintenance processes.

The unit applies to saw technicians and other technical experts who are responsible for the operation of saw shops, production lines and other forestry equipment and are required to have a working understanding of hydraulic and pneumatic principles and contribute to the identification of plant and equipment failures in order to communicate effectively with maintenance and engineering teams.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
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<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
<p>1. Identify basic principles and applications of pneumatic power</p>	<p>1.1 Identify purpose and advantages of pneumatic power transmission over mechanical and hydraulic power transmission</p> <p>1.2 Review key terminology and concepts used in pneumatic systems</p> <p>1.3 Identify applications and operational features of pneumatic power system in relevant forest or wood products equipment</p> <p>1.4 Identify mechanical, electrical and electronic components from simple pneumatic power system diagrams for relevant forest or wood products equipment</p> <p>1.5 Determine risk associated with pressure in pneumatic power systems, and preventative actions</p> <p>1.6 Identify potential personal injury hazards associated with pneumatic power systems, and appropriate prevention or mitigation measures</p>
<p>2. Identify basic principles and applications of hydraulic power</p>	<p>2.1 Identify purpose and advantages of hydraulic power transmission over mechanical and pneumatic power transmission</p> <p>2.2 Review key terminology and concepts used in hydraulic systems</p> <p>2.3 Distinguish between atmospheric gauge and absolute pressures and their use in hydraulic systems</p> <p>2.4 Identify applications and operational features of hydraulic power system in relevant forest or wood products equipment</p> <p>2.5 Identify mechanical, electrical and electronic components from simple hydraulic power system diagram for relevant forest or wood products equipment</p> <p>2.6 Determine risk associated with pressure in hydraulic power systems, and preventative actions</p> <p>2.7 Identify potential personal injury hazards associated with hydraulic power systems, and appropriate prevention or mitigation measures</p>
<p>3. Analyse potential pneumatic and/or hydraulic failures of forest or wood products equipment</p>	<p>3.1 Identify hydraulic and/or pneumatic system components of site equipment and determine their function(s)</p> <p>3.2 Read maintenance records and analyse mean time between equipment failures or malfunctions related to hydraulic and/or pneumatic components</p> <p>3.3 Read and analyse pneumatic and/or hydraulic performance data of site equipment</p> <p>3.4 Identify potential failures and/or faults for each hydraulic and/or pneumatic component of site equipment that may affect proper</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	functioning of site equipment 3.5 Identify root causes for potential failures and/or faults of hydraulic and/or pneumatic components 3.6 Determine effects associated with each potential failure and/or fault on site equipment if they occur 3.7 Assess likelihood of occurrence, potential severity, and ease of detection of potential failures and/or faults, and determine a relative failure risk rating 3.8 Select and recommend preventive pneumatic and/or hydraulic maintenance processes to reduce the risk of equipment failures or malfunctions

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret basic technical references relevant to hydraulic and pneumatic systems and components
Oral communication	<ul style="list-style-type: none"> Use appropriate vocabulary and technical language, to describe hydraulic and pneumatic systems and components
Numeracy	<ul style="list-style-type: none"> Interpret numeric and graphical information relevant to the operation of hydraulic and pneumatic systems and components

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT4225 Apply principles of pneumatics and hydraulics to analyse	Not applicable	The unit has been created to address a skill or task required by industry that is not covered by an existing	Newly created

potential equipment failures		unit	
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Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT4225 Apply principles of pneumatics and hydraulics to analyse potential equipment failures

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has:

- used a simple system diagram to describe the operation of:
 - one pneumatic system of an item of equipment used in forest or wood products operations
 - one hydraulic system of an item of equipment used in forest or wood products operations
- conducted basic failure modes, effects and root causes analysis on hydraulic or pneumatic components of an item of equipment used in forest or wood products operations
- provided one recommendation for reducing the risk of equipment failure or malfunction as part of preventative maintenance.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes basic knowledge of:

- key concepts of pneumatic power systems in worksite forest or wood products equipment, machines or plant, including:
 - purpose and advantages of pneumatic power transmission
 - terminology used in pneumatic power systems, including prime movers: linear, rotary, radial; pressure, flow, orifice flow, force, torque, holding pressure, load, lift, stroke
 - atmospheric, gauge and absolute pressure
 - vacuum
 - Pascal's law application to pneumatic power transmission
 - formulae for pressure, force
 - measurement units

- pneumatic power system operation in worksite forest or wood products equipment, machines or plant, including:
 - purpose of components, including mechanical, electrical and electronic components
 - types of gases
 - contamination
 - precision control
 - operational response rate
 - performance characteristics
 - difference between air production and air consuming systems
 - risks of pressure in hydraulic power systems, including actuator stopped or stalled, stored energy
 - hazards, including crushing and pinch points, sudden shoot out, presence of carbon monoxide in system, exposure to compressed air, split tube or pipe
 - types of frequent malfunctions during operations
- key concepts of hydraulic power systems in worksite forest or wood products equipment, machines or plant, including:
 - purpose and advantages of hydraulic power transmission
 - terminology used in hydraulic power systems – pressure, flow, force, torque, holding pressure, linear movement, rotary movement, load, lift
 - atmospheric, gauge, and absolute pressure
 - Pascal's law application to hydraulic power transmission
 - formulae – pressure, force
 - measurement units
- hydraulic power system operation in worksite forest or wood products equipment, machines or plant, including:
 - purpose and function of components, including mechanical, electrical and electronic components
 - types of fluids
 - contamination
 - pressure and flow control
 - performance characteristics
 - components, including reservoir, gauge, filter, control valves, pressure relief valves, pump, actuator, regulator
 - risks of pressure in hydraulic power systems, including pump running, pump stopped, stored energy
 - hazards, including crushing and pinch points, burns from hot oil at high pressure, fire from oil leaks, flailing hydraulic lines, injection of oil into the skin, oil leaks on floor, skin exposure to oil
 - types of frequent malfunctions during operations, including pressure fluctuation, fluid leakage and excessive temperature, overheating, excessive noise, insufficient power
- techniques for determining 'mean time between failures' (MTBF)

- techniques for undertaking failure modes, effects and root causes analysis on hydraulic and pneumatic components of worksite forest or wood products equipment, machines or plant.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest or wood products work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - basic technical references relevant to hydraulic and pneumatic systems and components
- specifications:
 - workplace procedures and manufacturer specifications relevant to hydraulic and pneumatic power systems and components in forest and wood products equipment, machines and plant.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT5210 Contribute to establishment and implementation of forest management systems

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to contribute to the establishment and implementation of systems for forestry management that meet the requirements of international treaties, conventions and initiatives and commonwealth, state or territory law.

It applies to individuals who work in forestry management roles in a variety of work settings, such as native forests, plantations, agroforestry, farm forestry and forest management companies, and includes operations of all sizes.

All work must be carried out to comply with workplace procedures according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Determine factors for inclusion in forest	1.1 Identify key requirements of legislation, forest certification standards, international treaties, conventions and initiatives that

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
management system	impact on forest management processes 1.2 Identify range and scope of organisational activities requiring compliance with laws, international treaties, conventions and initiatives 1.3 Monitor relevant information sources to identify and maintain knowledge of forest management issues 1.4 Assess strategic and operational factors impacting on organisational forest management processes 1.5 Identify strategic priorities and plan implementation to ensure compliance with laws, international treaties, conventions and initiatives
2. Support establishment of forest management plans and system	2.1 Contribute to the design of organisational forest management system 2.2 Recommend criteria for implementing and maintaining systems for forest management 2.3 Participate in development of methods for gathering and monitoring forest management information 2.4 Implement and maintain feedback systems supporting forest management processes 2.5 Recommend processes for forest management and refer to appropriate personnel
3. Support implementation of forest management system	3.1 Allocate material and equipment resources to implement systems according to workplace procedures, timelines and budget 3.2 Assign roles and responsibilities to appropriate personnel and provide information on expected outcomes 3.3 Facilitate training of personnel to ensure system and quality practices are incorporated into day-to-day work activities 3.4 Implement feedback methods for determining effectiveness of major elements of forest management system 3.5 Monitor system compliance of staff and contractors
4. Monitor and evaluate forest management system	4.1 Monitor forest management systems regularly for compliance with laws, international treaties, conventions and initiatives, and report non-compliance to appropriate personnel 4.2 Evaluate information on forest condition and make

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	recommendations for system improvements 4.3 Review reports to ensure compliance requirements are consistently implemented and take corrective action as required 4.4 Discuss and analyse feedback for operational effectiveness of system 4.5 Make recommendations for required changes to system based on consultation and analysis

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret complex and unfamiliar information within laws (or plain English equivalent documents), international treaties, conventions and initiatives
Writing	<ul style="list-style-type: none"> Develop system documents requiring precise and complex information, using simple language structures for use by broad audiences
Oral communication	<ul style="list-style-type: none"> Hold high-level consultative discussions to generate feedback on systems and ideas for change
Numeracy	<ul style="list-style-type: none"> Manage complex budgets for all system aspects

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT5210 Contribute to establishment and implementation of forest management	FWPCOT6207 Develop forest management systems and processes	New title Revised Elements and Performance Criteria Revised Performance	Not equivalent

systems		Evidence and Knowledge Evidence Revised Assessment Conditions	
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Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT5210 Contribute to establishment and implementation of forest management systems

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has participated in the development, implementation and monitoring of a forest management compliance system or process that is relevant to one area of operation of a forestry organisation.

In doing this activity, the individual has:

- determined and reported on the compliance requirements of one area of operation of a forestry organisation in relation to:
 - commonwealth, state or territory law
 - local government regulations
 - international treaties, conventions and initiatives
- recommended processes for forest management and feedback systems and methods for gathering and monitoring forest management information
- assigned appropriate roles to personnel, facilitated appropriate training of personnel and implemented a feedback system
- made recommendations for required changes to forest management systems based on consultation and analysis.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- objectives and key content of commonwealth, state or territory and local government laws and regulation relevant to forest management:
 - land ownership
 - boundary management
 - environmental management
 - access

- silviculture
- harvesting
- forest protection
- methods to access, locate and select applicable objectives and key content of international and national treaties, conventions and initiatives
- key objectives of the current forest certification standards in Australia
- factors to be considered in assessing forest management issues inherent to different types of forests
- contemporary forest management issues that impact on the organisation and its practices
- scope of forest operations and activities of the organisation, including:
 - operations in national parks
 - other operations on public land
 - operations on private land
 - timber growing and harvesting
 - fire management
- techniques for monitoring forest management systems and processes for compliance with laws, international treaties, conventions
- strategic and operational factors impacting on organisational forest management processes and decision making, including:
 - fire management planning
 - flora and fauna planning
 - planning for environmental protection and monitoring
 - regulatory compliance issues
 - compliance with international treaties, conventions and initiatives
 - location and nature of sites
 - organisational policy and operational guidelines
 - public liabilities and exposure to risk
 - risk management strategies and policies.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - computers, keyboards and software used to create system documents
 - commonwealth, state or territory laws and local government regulations (or plain English documents issued by regulators) relevant to forest management
 - international treaties, conventions and initiatives relevant to forest management

- publications and journals relevant to forest management
- specifications:
 - workplace safety and environmental policies and procedures applicable to forestry operations
 - industry and workplace-specific forest management systems and processes
 - workplace policies and procedures for documenting forest management systems and processes.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT5211 Implement forest management certification scheme

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to implement and comply with the requirements of a forest management certification scheme as part of forest growing and management activities.

The unit applies to individuals who are responsible for the implementation of forest management certification schemes.

All work must be carried out to comply with workplace procedures according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Confirm forest management certification scheme requirements	1.1 Identify key requirements of forest management certification scheme and main provisions of complementary commonwealth legislation

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	1.2 Clarify the relationship between the forest management certification and chain of custody certification components of the forest certification scheme
2. Comply with forest management certification system requirements	<p>2.1 Review forest management certification scheme requirements and associated workplace policy and procedures</p> <p>2.2 Confirm period of certification and standards that must met to achieve and maintain certification</p> <p>2.3 Identify and implement actions to address corrective actions identified by the certifying body</p> <p>2.4 Confirm accuracy and completeness of all documents and registers used for certification, audit and quality purposes</p> <p>2.5 Coordinate audit of forest management certification scheme to minimise non-compliance</p> <p>2.6 Report incidents of non-compliance and required remedial actions to appropriate personnel according to workplace requirements</p>
3. Monitor implementation of forest management certification scheme	<p>3.1 Incorporate audit recommendations into the forest management certification scheme improvement plan to rectify non-compliances and improve processes</p> <p>3.2 Contribute to continuous improvement process to ensure scheme remains effective</p> <p>3.3 Prepare information on operation of scheme and disseminate to relevant internal and external personnel according to scheme communication plan</p> <p>3.4 Periodically prepare reports on operation of scheme identifying operational problems, and disseminate to relevant internal and external personnel</p> <p>3.5 Prepare reports on any identified breaches of compliance and disseminate to relevant internal and external personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret complex and sometimes unfamiliar written information to ensure compliance with the certification system
Writing	<ul style="list-style-type: none"> Prepare comprehensive reports on the outcomes of audit activities
Oral communication	<ul style="list-style-type: none"> Provide clear, unambiguous instructions on the certification system and its requirements to the full scope of organisational employees
Numeracy	<ul style="list-style-type: none"> Interpret complex and sometimes unfamiliar statistical and graphical information to ensure compliance with the certification system

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT5211 Implement forest management certification scheme	FWPCOT5206 Implement forestry chain of custody certification system	Redesigned unit that includes content from FWPCOT5206 Implement forestry chain of custody certification system and FWPCOT6202 Develop and manage a forestry chain of custody certification process	Not equivalent
FWPCOT5211 Implement forest management certification scheme	FWPCOT6202 Develop and manage a forestry chain of custody certification process	Redesigned unit that includes content from FWPCOT5206 Implement forestry chain of custody certification system and FWPCOT6202 Develop and manage a forestry chain of custody certification process	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT5211 Implement forest management certification scheme

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has coordinated all processes for one internal forest management certification scheme audit.

In performing this task, the individual has:

- prepared all required documents
- responded to audit reports and provided clear evidence of remedial actions taken for non-compliant issues
- prepared a written report on audit outcomes.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- forest certification:
 - purpose
 - benefits
 - forest management certification standards
 - procedures for gaining certification
 - schemes operating in Australia
- purpose and key content and of the Illegal Logging Prohibition Act 2012 or superseding law
- purpose and key content of the current Forest Management Certification and Chain of Custody standards applicable in Australia
- forest certification bodies and systems
- industry and workplace standards for managing the traceability of certification system documents

- format, content and use of documents and registers used for certification, audit and quality purposes, including:
 - timber source documents
 - quality records
 - numbering and labelling documents
- internal audit processes, including:
 - purpose of internal audits
 - scheduling requirements for audits
 - role of internal auditors
 - process for preparing and presenting required documents
 - requirements for and methods of responding to non-compliances and process improvements identified by audit
- workplace and legal requirements for reporting incidents of non-compliance
- format, content and use of the following plans and reports:
 - audit reports
 - system improvement plans
 - reports on system operation
 - reports on breaches of compliance
- workplace standards, requirements, policies and procedures for implementing forestry certification systems.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - computers, keyboards, printers
 - reference materials related to forest certification system, including standards and previous reports
- specifications:
 - workplace policies and procedures for implementing a forestry certification system.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT5212 Implement workplace sustainability practices in the forest and wood products industry

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to incorporate sustainability principles into existing workplace practices and support their implementation in a forest and wood products work environment.

The unit applies to individuals who are involved in implementing workplace sustainability practices in the forest and wood products industry.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for implementation of sustainability practices in	1.1 Review workplace policies, procedures and practices for inclusion of sustainability principles

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
forest or wood products operations	<p>1.2 Provide information on ways of incorporating sustainability principles into workplace policies, procedures and practices</p> <p>1.3 Make recommendations for incorporating sustainability principles into workplace policies, procedures and practices</p> <p>1.4 Redesign work practices to address sustainability principles in consultation with appropriate personnel</p> <p>1.5 Determine resource requirements, training needs and timelines for implementing sustainability practices</p> <p>1.6 Develop action plan for implementing sustainability practices</p>
2. Coordinate the implementation of sustainability practices in forest or wood products operations	<p>2.1 Communicate sustainability policy and resulting changes to workplace practices to work team</p> <p>2.2 Provide support to work team to implement sustainability practices</p> <p>2.3 Monitor implementation of sustainability practices against action plan according to workplace procedures</p>
3. Report on effectiveness of workplace sustainability practices in forest or wood products operations	<p>3.1 Evaluate implementation of sustainability practices on an ongoing basis</p> <p>3.2 Seek feedback from work team on implementation of sustainability practices</p> <p>3.3 Evaluate changing trends and consider opportunities for improved sustainability practices</p> <p>3.4 Report on evaluation outcomes and make recommendations for improving sustainability practices to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret complex and unfamiliar text-based information on sustainability principles and practices
Writing	<ul style="list-style-type: none"> Use a variety of writing styles to convey information on sustainability action plans and evaluation reports to different

Skill	Description
	audiences
Oral communication	<ul style="list-style-type: none"> Use interactive communication and active listening skills to convey information on sustainability practices to diverse audiences Apply verbal and non-verbal communications skills to inform and gather feedback from work team on sustainability practices
Numeracy	<ul style="list-style-type: none"> Interpret graphical and statistical information on impact of implementation of sustainability practices

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT5212 Implement workplace sustainability practices in the forest and wood products industry	FWPCOT4208 Implement workplace sustainability practices	Redesigned unit that includes content from FWPCOT4208 Implement workplace sustainability practices, FWPCOT5207 Implement sustainability in the workplace, and FWPCOR6201 Manage sustainability in the workplace	Not equivalent
FWPCOT5212 Implement workplace sustainability practices in the forest and wood products industry	FWPCOT5207 Implement sustainability in the workplace	Redesigned unit that includes content from FWPCOT4208 Implement workplace sustainability practices, FWPCOT5207 Implement sustainability in the workplace, and FWPCOR6201 Manage sustainability in the workplace	Not equivalent
FWPCOT5212 Implement workplace sustainability practices in the forest and wood products industry	FWPCOR6201 Manage sustainability in the workplace	Redesigned unit that includes content from FWPCOT4208 Implement workplace sustainability practices, FWPCOT5207 Implement sustainability in the workplace, and FWPCOR6201 Manage	Not equivalent

		sustainability in the workplace	
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Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT5212 Implement workplace sustainability practices in the forest and wood products industry

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has incorporated sustainability principles into one existing workplace practice in an operational area in the forest and wood products industry.

In performing this activity, the individual has:

- identified sustainability requirements and changes necessary to work practices
- planned and supervised activities for implementing the recommended changes to work practices
- collected information, evaluated and reported on the outcomes of sustainability practices established in the workplace.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- sustainability principles:
 - economic
 - social
 - environmental
- consultative mechanisms for incorporating sustainability principles into workplace policies, procedures and practices applicable to forest or wood products operations
- workplace practices in forest or wood products operations that incorporate sustainability principles
- ways of redesigning work practices in forest or wood products operations to address sustainability principles
- impact of work practices in forest or wood products operations on:
 - water quality and quantity

- energy use
- emissions
- Indigenous heritage
- fauna
- flora
- cultural environment
- sustainable work practices in forest or wood products operations:
 - disposing of, recycling and reusing timber and other waste
 - reducing use of toxic materials and hazardous chemicals
 - minimising resource use through changes in process, facility design and management
- change management principles and methods for implementing sustainability practices
- format, content and use of:
 - action plans
 - evaluation reports
- workplace procedures for recording and reporting evaluation outcomes.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest and wood products work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - computing equipment for preparation of action plans and reports
 - proformas for action plans and reports
- specifications:
 - workplace sustainability policy and procedures
 - workplace safety and environmental policies and procedures applicable to forest and wood products operations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT5213 Contribute to and implement a community engagement plan

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to contribute to the development, implementation and review of community engagement plans that focus on forestry-related matters and achieving sustainable environmental, economic and community benefits.

This unit applies to individuals who are engaged in developing and implementing community engagement plans either as a discrete role or as part of a broader job role.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Scope need for	1.1 Utilise a community engagement framework to assist in analysing

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
community engagement	<p>and responding to issues that require community engagement</p> <p>1.2 Confirm organisational issues requiring community engagement</p> <p>1.3 Confirm purpose and potential benefits of community engagement for the organisation and the community</p> <p>1.4 Identify target groups in line with identified issues and purpose of engagement</p>
2. Contribute to development of community engagement plan	<p>2.1 Confirm objectives of community engagement in consultation with key stakeholders</p> <p>2.2 Identify characteristics of the community, appropriate community engagement strategies, potential barriers to effective engagement and approach to addressing barriers</p> <p>2.3 Incorporate communication protocols in community engagement plan, including ways of communicating with culturally and linguistically diverse communities</p> <p>2.4 Liaise and seek support from senior personnel during preparation of the community engagement plan, as required</p> <p>2.5 Produce draft community engagement plan according to workplace procedures</p> <p>2.6 Forward draft community engagement plan to appropriate personnel and confirm further actions</p>
3. Coordinate implementation of community engagement plan	<p>3.1 Determine community engagement activities, resource requirements and implementation timelines according to community engagement plan</p> <p>3.2 Communicate objectives and potential constraints on engagement to appropriate personnel, and allocate resources, roles and responsibilities</p> <p>3.3 Identify and manage expectations of participants and provide targeted information to participants and other stakeholders throughout engagement process according to workplace procedures</p> <p>3.4 Engage with media to ensure engagement objectives are accurately communicated to community members and other stakeholders according to workplace procedures</p> <p>3.5 Provide opportunities for individuals and communities to develop their capacity to engage with the organisation</p> <p>3.6 Implement mechanisms for communities to raise their own issues</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>with the organisation</p> <p>3.7 Monitor roll-out of community engagement activities on an ongoing basis, consider feedback from stakeholders and adjust engagement plan in consultation with appropriate personnel as required</p> <p>3.8 Report on implementation of community engagement activities to appropriate personnel</p>
4. Review community engagement plan	<p>4.1 Assess engagement outcomes against purpose and objectives</p> <p>4.2 Report outcomes of community engagement activities to relevant stakeholders</p> <p>4.3 Provide feedback to participants on how the outcomes have informed planning or decision making</p> <p>4.4 Report on effectiveness of community engagement plan and make recommendations to inform future planning based on consultation and feedback</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> • Read and interpret complex and unfamiliar texts on forestry policy • Read and interpret submissions and position papers prepared by stakeholders
Writing	<ul style="list-style-type: none"> • Write recommendations and prepare community engagement reports requiring complex language structures and precision of expression • Prepare community engagement information requiring the presentation of complex information, using simple language structures and precision of expression
Oral communication	<ul style="list-style-type: none"> • Interact appropriately with a variety of community partners to explain complex and formal policies • Establish and foster transparent, trusting relationships or partnerships with individuals and communities

Skill	Description
	<ul style="list-style-type: none"> Work with diverse communities using a range of communication styles to suit different audiences and purposes

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT5213 Contribute to and implement a community engagement plan	FWPCOT5208 Build and maintain community relationships	Redesigned unit that includes content from FWPCOT5208 Build and maintain community relationships, and FWPCOT6201 Manage community engagement	Not equivalent
FWPCOT5213 Contribute to and implement a community engagement plan	FWPCOT6201 Manage community engagement	Redesigned unit that includes content from FWPCOT5208 Build and maintain community relationships, and FWPCOT6201 Manage community engagement	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT5213 Contribute to and implement a community engagement plan

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, under the supervision of a senior forester or other senior staff member with responsibility for community engagement, the individual has developed, coordinated and reviewed the implementation of one community engagement plan that is focused on addressing community views on a matter related to forestry operations.

In undertaking this activity, the individual has:

- analysed issues that require community engagement and identified target groups
- identified community engagement strategies and potential barriers to effective engagement
- produced draft community engagement plan and confirmed further actions
- communicated objectives and potential constraints on engagement and allocated resources, roles and responsibilities
- monitored, considered feedback from stakeholders and adjusted engagement plan
- assessed engagement outcomes against purpose and objectives and reported on community engagement plan effectiveness.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- community engagement theory and principles
- community engagement frameworks:
 - core principles and indicators
 - standards
 - performance rating measures
 - types, methods and levels of engagement
 - communication modes

- decision-making mechanisms
- common forest and wood products industry issues requiring community engagement, and a range of benefits of engaging community in consultation processes
- strategies, practices and techniques for community engagement
- relationship and partnership building principles and techniques
- communication styles appropriate for establishing and fostering transparent, trusting relationships or partnerships with individuals and communities
- leadership principles and the management of community engagement expectations
- strategies and processes for consultation with the community
- processes of individual advocacy and group advocacy
- organisational opportunities for community involvement
- constraints and barriers to community engagement
- demographic features of the local community:
 - socio-economic diversity
 - gender diversity
 - cultural mix
 - household structures
 - education levels
 - political orientations
 - religious beliefs
 - industry and business structures
- characteristics of local communities and factors affecting community engagement, such as:
 - dynamics of community
 - community power structures
 - big politics versus community politics (big 'P' vs little 'p')
 - collaborations
 - formal and informal community networks, partnerships and lobby groups
 - strength and views publicised by the business community and local media organisations
- workplace requirements, policies and procedures for the following:
 - building and maintaining community relationships
 - communication and media engagement.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions

- resources, equipment and materials:
 - computing hardware and software for documenting community engagement plans
 - reference materials on community engagement, characteristics of local community, and forestry related issues that may require community engagement
- specifications:
 - workplace standards, policies and procedures for community engagement
 - workplace procedures for documenting and communicating community engagement plans.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT5214 Communicate forestry and forest science with stakeholders and the community

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to develop, implement, monitor and review programs and activities that focus on communicating forestry and forest science information and skills to stakeholders and the community.

The unit applies to individuals whose job role involves communicating forestry and forest science information and skills to stakeholders and the community.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Determine needs	1.1 Identify information and skill development needs of community and stakeholder groups in relation to forestry and forest science

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.2 Determine most effective means of communicating forestry and forest science to community and stakeholder groups</p> <p>1.3 Assess benefits and costs of different approaches to communicating forestry and forest science to specific audiences</p> <p>1.4 Use consultative mechanisms to confirm and prioritise forestry and forest science information and skill development needs of community and stakeholder groups</p>
2. Plan forestry and forest science communication strategy	<p>2.1 Design and document a strategy for communicating forestry and forest science information and skills to specific community and stakeholder groups</p> <p>2.2 Identify forestry and forest science activities and programs that are targeted at particular community and stakeholder groups</p> <p>2.3 Analyse possible barriers to participation of community and stakeholder groups in forestry and forest science activities and programs</p> <p>2.4 Identify ways of promoting forestry and forest science activities and programs to diverse community and stakeholder groups</p> <p>2.5 Develop an evaluation strategy for ongoing monitoring of the forestry and forest science communication strategy</p>
3. Implement forestry and forest science communication strategy	<p>3.1 Work with forestry personnel and representatives of community and stakeholder groups to implement forestry and forest science activities and programs</p> <p>3.2 Identify and source resources to support delivery of forestry and forest science activities and programs</p> <p>3.3 Monitor implementation of activities and programs to ensure that needs of target group are addressed</p>
4. Evaluate forestry and forest science communication strategy	<p>4.1 Gather feedback from forestry personnel and community and stakeholder groups on programs and activities to verify effectiveness and identify program improvements</p> <p>4.2 Report on outcomes of strategy and make recommendations for future programs and activities based on consultation and analysis</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Source, analyse and interpret written information presented in a variety of formats to identify program options and requirements
Writing	<ul style="list-style-type: none"> Prepare documentation that incorporates the analysis and evaluation of information using specialised language in a format and style appropriate to a specific audience
Oral communication	<ul style="list-style-type: none"> Conduct face-to-face consultations with a diverse community and stakeholder groups to determine their information and skill development needs in relation to forestry and forest science
Numeracy	<ul style="list-style-type: none"> Perform calculations to determine budgets for and analyse feedback from stakeholders and community members on programs and activities

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT5214 Communicate forestry and forest science with stakeholders and the community	FWPCOT5202 Manage forestry information and interpretations programs	Redesigned unit that includes content from FWPCOT5202 Manage forestry information and interpretations programs, and FWPFGM5217 Promote plantations as a sustainable form of land use	Not equivalent
FWPCOT5214 Communicate forestry and forest science with stakeholders and the community	FWPFGM5217 Promote plantations as a sustainable form of land use	Redesigned unit that includes content from FWPCOT5202 Manage forestry information and interpretations programs, and FWPFGM5217 Promote plantations as a	Not equivalent

		sustainable form of land use	
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Links

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Assessment Requirements for FWPCOT5214 Communicate forestry and forest science with stakeholders and the community

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has determined an information need for a stakeholder and/or community group in relation to forestry and forest science and established, implemented and evaluated a plan for disseminating forestry and forest science information.

In performing this activity, the individual has:

- sought clarifications to ascertain the information need and characteristics of the target community and/or stakeholder group
- selected an effective and relevant mode of communication to address the information need and the target audience
- determined forestry and forest science activities and programs suitable for the need
- coordinated staff and resources to support delivery of forestry and forest science activities and programs
- developed and implemented an evaluation strategy for ongoing monitoring of the communication outcomes.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- types of forestry and forest science skills and information needs of community and stakeholder groups:
 - people at any level in the organisation who work within or for the forest
 - people outside the organisation who work within or for the forest
 - people who supply forestry services to the organisation, such as forestry contractors
 - people affected by organisational decisions or actions
 - people to whom the organisation provides programs to meet public and social accountability requirements

- students
- people with interest in the forest
- content of forestry and forest science programs and activities:
 - forest carbon
 - forest ecology
 - forest health and nutrition
 - forest resources
 - forest hydrology
 - forest soils
 - plantation establishment and design
 - forestry harvesting and haulage
 - post-harvest operations
 - new technologies
 - species
 - silvicultural regimes
 - pests and disease
 - forest maintenance
 - forest nursery production
 - fire protection
- ways of delivering forestry and forest science information and skills:
 - engagement in schools, vocational education and training and university education programs
 - community programs
 - self-help material
 - social media, web sites and online materials
 - advertising, brochures and promotional materials
 - field demonstrations
 - field inspections
 - media campaign
 - workshops
 - field days
 - lectures
 - information sessions
 - individual consultations
 - brochures
 - multimedia material
 - exhibitions
- features, benefits and practical application of promotional activities commonly used to promote forestry and forest science activities and programs to community and stakeholder groups.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - computing equipment to prepare plans and reports
 - resources for the delivery of forestry and forest science programs and activities
- specifications:
 - workplace policies and procedures regarding the delivery of forestry and forest science programs and activities to community and stakeholder groups.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT5215 Apply innovative thinking to support forestry best practice

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to facilitate innovative thinking and best practice in forestry organisations.

It applies to individuals whose job roles involve overseeing work teams, business areas or processes who may use innovative thinking and practice to advance business objectives and promote best practice in forestry operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Identify opportunities to stimulate innovative	1.1 Research methods and techniques for promoting innovative thinking in works teams and organisations

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
thinking	<p>1.2 Analyse operational issues as a stimulus for innovative thinking</p> <p>1.3 Identify opportunities to apply innovative thinking to operational issues</p> <p>1.4 Apply workplace methods and tools for generating new ideas and new responses to operational issues</p>
2. Develop and support a culture of innovation	<p>2.1 Provide written and oral information about innovative practices, processes and products</p> <p>2.2 Provide opportunities to encourage creative thinking techniques that foster personal and team innovation</p> <p>2.3 Capture and share innovative ideas and practices</p> <p>2.4 Foster consultation, communication and team development approaches that support innovative thinking</p> <p>2.5 Implement management strategies that support a workplace culture of innovation</p>
3. Implement an innovation to support forestry best practice	<p>3.1 Clarify and confirm the need for innovation</p> <p>3.2 Develop a concept proposal for an innovation to support forestry best practice</p> <p>3.3 Seek support and approval for concept proposal according to workplace procedures</p> <p>3.4 Prepare a project plan for the innovation, documenting project stages, tasks, risks, stakeholder engagement, milestones and resources required to develop, implement and evaluate the innovation</p> <p>3.5 Coordinate the trial of the innovation</p> <p>3.6 Analyse and report feedback on the trial to appropriate personnel</p> <p>3.7 Establish action plan for implementing the innovation</p> <p>3.8 Implement innovation, monitor progress and provide reports to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Analyse complex workplace documents to identify operational issues and conditions relevant to innovative workplace practice
Writing	<ul style="list-style-type: none"> Prepare written information for a range of audiences about innovative practices, processes and products
Oral communication	<ul style="list-style-type: none"> Hold consultative discussions with operational personnel to explore issues and generate ideas for innovative workplace practice Use appropriate language and communication skills to facilitate discussions with diverse audiences
Numeracy	<ul style="list-style-type: none"> Extract and interpret complex numerical and statistical data to assess the need for and impact of an innovation

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT5215 Apply innovative thinking to support forestry best practice	FWPCOT8101 Lead forest and wood products industry innovative thinking and practice	Redesigned unit that includes content from FWPCOT8101 Lead forest and wood products industry innovative thinking and practice, FWPCOT8102 Initiate and lead a forest and wood products industry innovation, FWPCOT6208 Manage innovative thinking and practice in the forest and wood products industry, and FWPCOT6209 Manage forest and wood products industry research	Not equivalent
FWPCOT5215 Apply innovative thinking to support forestry best practice	FWPCOT8102 Initiate and lead a forest and wood products industry innovation	Redesigned unit that includes content from FWPCOT8101 Lead forest and wood products industry innovative thinking and practice, FWPCOT8102 Initiate and lead a forest and wood	Not equivalent

		products industry innovation, FWPCOT6208 Manage innovative thinking and practice in the forest and wood products industry, and FWPCOT6209 Manage forest and wood products industry research	
FWPCOT5215 Apply innovative thinking to support forestry best practice	FWPCOT6208 Manage innovative thinking and practice in the forest and wood products industry	Redesigned unit that includes content from FWPCOT8101 Lead forest and wood products industry innovative thinking and practice, FWPCOT8102 Initiate and lead a forest and wood products industry innovation, FWPCOT6208 Manage innovative thinking and practice in the forest and wood products industry, and FWPCOT6209 Manage forest and wood products industry research	Not equivalent
FWPCOT5215 Apply innovative thinking to support forestry best practice	FWPCOT6209 Manage forest and wood products industry research	Redesigned unit that includes content from FWPCOT8101 Lead forest and wood products industry innovative thinking and practice, FWPCOT8102 Initiate and lead a forest and wood products industry innovation, FWPCOT6208 Manage innovative thinking and practice in the forest and wood products industry, and FWPCOT6209 Manage forest and wood products industry research	Not equivalent

Links

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Assessment Requirements for FWPCOT5215 Apply innovative thinking to support forestry best practice

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has completed each of the following activities within a business area of a forestry industry organisation:

- analysed and applied innovative thinking and practices to one operational issue
- shared information about one innovative idea with professional colleagues and facilitated consultative and communicative approaches to encourage innovative thinking
- consulted with the management on one innovation idea, created a project plan, coordinated activities according to the plan and monitored and reported on innovation outcomes to management.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- key concepts and theories relating to innovative thinking
- processes for fostering and stimulating innovation in forestry organisations:
 - processes for promoting innovative thinking and practice within an individual business area
 - specific management approaches that foster innovation
 - workplace methods and tools for generating new ideas and innovative thinking
 - technological developments affecting need for innovation
- innovation risks and challenges:
 - typical operational challenges and barriers to innovation within individual business areas, and methods to overcome
 - common risks associated with encouraging operational personnel to participate in innovative practice
- innovation requirements:

- need
- identifying and prioritising opportunities for innovation
- objectives
- deliverables
- quality standards
- resources
- building support for innovation
- learning from innovation efforts
- methods used to trial innovations:
 - focus group
 - pilot project
 - feasibility assessment
- project management:
 - planning
 - stakeholder engagement
 - risk management strategies
 - implementation and monitoring
 - reviewing outcomes.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - research material, reports, journals on organisational innovative practice
 - workplace tools for generating new ideas and innovative thinking
- specifications:
 - workplace policies and procedures for supporting and approving innovative projects.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPFGM3208 Construct and maintain forest roads and tracks

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to plan, construct and maintain roads and tracks in a forest environment. The unit includes monitoring road or track conditions and coordinating maintenance work.

The unit applies to individuals who work as bulldozer operators, forestry technicians, harvesting technicians and mobile equipment operators in a commercial forest environment and are involved in forest road and track construction operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Forest Growing and Management (FGM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for road or track construction work	1.1 Determine job requirements from work order or instruction, and where required, seek clarification from appropriate personnel 1.2 Confirm safety and environmental protection requirements

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>according to workplace procedures</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with road and track construction operations</p> <p>1.5 Identify and report existing and potential environmental risks and hazards to relevant personnel</p> <p>1.6 Consult and maintain communication with team members and other appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.7 Obtain tools and equipment needed for the work, and check for correct operation and safety</p>
2. Plan road or track	<p>2.1 Obtain topographical map of area and assess details in relation to environmental management considerations</p> <p>2.2 Plan road or track, including drainage and entry points that provide vehicle and equipment access, turning and loading space</p> <p>2.3 Prepare forest road or track construction plan that includes timelines, resources and equipment according to workplace procedures</p>
3. Construct road or track	<p>3.1 Establish line of road and remove obstacles according to plans</p> <p>3.2 Establish and maintain communication with others to ensure safe work</p> <p>3.3 Remove soil to establish base that has suitable width, slope and stability</p> <p>3.4 Construct water crossing points and drains and install fish ladders if required according to environmental requirements, workplace procedures and engineering designs</p> <p>3.5 Prepare and construct intersection points to provide suitable entry and exit levels and control water flow</p> <p>3.6 Place pipes or culverts and backfill and compact and armour outlets as required, consistent with predicted water volume</p> <p>3.7 Transfer, spread and compact base and surface material to meet planned road or track design</p> <p>3.8 Control and manoeuvre equipment to compact road material and stabilise adjacent soil during construction</p> <p>3.9 Prepare road or track surface suitable for moving logs, and for the manoeuvre and traction of equipment</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
4. Maintain road or track	<p>4.1 Monitor condition of road or track to identify specific damage likely to lead to safety or environmental issues, and report to appropriate personnel</p> <p>4.2 Redesign and remake areas of consistent damage with assistance from appropriate personnel</p> <p>4.3 Plan and carry out maintenance with minimal disruption to other work activities</p> <p>4.4 Record and report construction operations and maintenance according to workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret workplace documentation to determine requirements
Writing	<ul style="list-style-type: none"> Use technical and workplace specific vocabulary to accurately and legibly complete workplace records and forms
Oral communication	<ul style="list-style-type: none"> Ask questions and actively listen to clarify contents of work plans Select and use appropriate spoken communication strategies with work colleagues and other personnel on site
Numeracy	<ul style="list-style-type: none"> Complete routine calculations to determine volume of road construction materials to construct and maintain tracks and roads

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPFGM3208 Construct and maintain forest roads and tracks	FWPFGM3209 Construct and maintain forest roads and tracks	Minor updates to Application, Performance Criteria and Knowledge	Equivalent

Code and title current version	Code and title previous version	Comments	Equivalence status
		Evidence Added a new Element Updated Foundation Skills, Performance Evidence and Assessment Conditions	

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPFGM3208 Construct and maintain forest roads and tracks

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on one occasion, the individual has:

- planned and constructed one forest road or track according to workplace tolerances in an operational forest
- planned, carried out and reported on maintenance of one forest road or track according to workplace tolerances in an operational forest.

In completing this work, the individual has followed a work order or instruction, workplace policy and procedures and current workplace health and safety legislation, regulations and related industry standards and codes of practice applicable to forest road and track construction operations.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- legislation, regulations, standards, codes of practice and established safe practices for constructing and maintaining forest roads and tracks:
 - data relating to road requirements and restrictions
 - maximum road loads
 - likely weather conditions
 - expected timeframes
 - survey locations and requirements
 - water courses
 - location of log landings
 - road entry points
 - crossing or entry points for other roads and tracks

- budget
- environmental protection requirements relating to:
 - roadside conditions and climate
 - habitat trees
 - ground growth
 - canopy
 - general forest lean
 - wind speed and direction
 - fallen trees
 - density of trees
 - ground slope
 - soil and water protection
 - ground hazards
 - obstacles
- environmental values and aquatic ecosystems to be protected
- workplace procedures, checks and routine maintenance to be carried out on construction equipment
- forestry road construction methods
- risks and hazards associated with forest road and track construction
- road transport equipment requirements and capabilities in forest operations
- ground water behaviour that impact on the construction of forestry roads and tracks
- workplace health and safety requirements, fire protocols and emergency evacuation procedures relevant to forest road and track construction operations.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in an operational forest or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - tools and equipment required for forest road and track construction operations
 - personal protective equipment
 - communication system
- specifications:
 - access to work order or instruction detailing forest road and track construction operations to be carried out by operator
 - access to workplace safety and environmental protection policies and procedures applicable to forest road and track construction operations
 - access to workplace procedures and forms for recording information related to constructing and maintaining forest roads and tracks.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPFIR2001 Follow fire prevention procedures

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to identify and apply fire prevention procedures as part of forestry operations.

The unit applies to individuals working in a broad range of roles and operations in forestry operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation, standards and industry codes of practice that apply to the workplace.

No licencing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Fire Control (FIR)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Identify fire prevention requirements for the site	1.1 Determine fire prevention requirements from site fire risk management plan, including agreed chain of command and control and responsibilities of forest personnel, and where required seek clarification from appropriate personnel 1.2 Identify fire hazards and associated fire risks and implement

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>mitigation measures within scope of responsibility</p> <p>1.3 Monitor fire weather warnings according to workplace requirements</p> <p>1.4 Identify emergency procedures to follow in the event of fire</p> <p>1.5 Confirm location, type, use and serviceability of personal protective equipment and firefighting equipment</p>
2. Follow fire prevention practices	<p>2.1 Follow agreed fire risk reduction measures by suspending forestry operations and/or putting in place suitable fire mitigation measures</p> <p>2.2 Comply with fire prevention safety signs and symbols</p> <p>2.3 Participate in fuel modification or reduction activities and other routine fire risk reduction measures according to workplace procedures</p> <p>2.4 Apply site housekeeping practices designed to eliminate or minimise the risk of fire</p> <p>2.5 Check mobile plant for electrical faults or current inspections and test fire extinguisher according to workplace procedures</p> <p>2.6 Check equipment used to prevent vegetation build-up as an ignition source according to workplace procedures</p> <p>2.7 Check potential ignition sources, including hot and dried weather, chainsaws, friction sources and machinery to minimise the risk of fire according to workplace procedures</p> <p>2.8 Monitor other forest users for compliance with fire risk management plan</p> <p>2.9 Recognise and respond to signs of fire according to workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Read and follow instructions in fire related workplace safety signs

Skill	Description
	and symbols
Writing	<ul style="list-style-type: none"> Use routine language to complete fire related workplace forms
Oral communication	<ul style="list-style-type: none"> Use familiar routine language to communicate with work colleagues and other personnel on site fire prevention practices
Numeracy	<ul style="list-style-type: none"> Read numerical information to verify test dates on firefighting equipment

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPFIR2001 Follow fire prevention procedures	FWPCOR2204 Follow fire prevention procedures	<p>Updated Application</p> <p>Added new Performance Criteria and Knowledge Evidence</p> <p>Minor wording changes to Elements, Performance Criteria and Knowledge Evidence</p> <p>Reworded Performance Evidence</p> <p>Updated Foundation Skills and Assessment Conditions</p>	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPFIR2001 Follow fire prevention procedures

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has performed each of the following fire prevention tasks while undertaking routine work activities in a daily forestry operation:

- checked serviceability of personal protective equipment and firefighting equipment
- identified potential ignition sources for the operation and followed workplace procedures to minimise fire risks
- checked fire weather information and warnings and assessed potential impacts/risks on forestry operations
- participated in routine fire risk reduction measures including site housekeeping practices and followed fire prevention safety signs and symbols during the work activities.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- basic features of fire risk management plan
- fire weather and impacts/risks on forestry operations
- fire weather warnings, including requirements of Fire Permit Periods and Total Fire Ban
- work practices designed to eliminate or minimise the risk of fire
- elements of fire
- fire hazards in the workplace
- fire prevention safety signs and symbols
- type and use of personal protective and firefighting equipment
- workplace housekeeping procedures designed to eliminate or minimise the risk of fire
- maintenance procedures designed to eliminate or minimise the risk of fire
- work practices designed to eliminate or minimise the risk of fire
- signs of fire

- procedures for safe handling, use, transport and storage of flammable liquids and gases in the workplace
- procedures for recording and reporting fire risk and incidents.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest or wood products work environment or an environment that accurately represents workplace conditions
- resources, equipment, and materials:
 - personal protective clothing
 - firefighting equipment and materials
 - fire prevention signs and symbols
 - fire weather warnings
 - tools and equipment required for housekeeping, fuel modification or reduction and other routine fire risk reduction activities
- specifications:
 - fire risk management plan
 - workplace fire prevention and emergency procedures
 - workplace housekeeping and maintenance procedures.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPFIR2002 Detect fire in a native forest or plantation

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to safely and accurately detect fires in a native forest or plantation setting and accurately record and report sighting details to fire command or control. This work may be performed on the ground, from a fire tower or from an aircraft.

The unit applies to forestry workers engaged in field operations in a native forest or plantation setting.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Fire Control (FIR)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Locate position of self and fire	1.1 Follow workplace health and safety procedures relevant to detecting fire 1.2 Identify, assess and take actions to mitigate risks and hazards in

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>the operating environment</p> <p>1.3 Identify own position in the field and position of fire using digital device or reference points, including landmarks and key geographical features</p> <p>1.4 Locate current position of fire on a print or digital map or plan</p>
2. Report and record smoke and other sightings	<p>2.1 Note and report information on the colour, location and amount of smoke and other sighting details according to workplace procedures</p> <p>2.2 Record sighting details, including locations, bearings and estimated distances, according to workplace procedures</p> <p>2.3 Maintain chronological log of sightings and fire weather data according to workplace procedures</p> <p>2.4 Identify situations requiring specialist advice and seek assistance as required according to workplace procedures</p>
3. Communicate with fire command or control	<p>3.1 Use mobile and other communications equipment to relay location of own position and sighting details to fire command or control</p> <p>3.2 Record and report relevant fire weather data and other information on conditions using required conventions and formats to appropriate personnel</p> <p>3.3 Record and report fire detecting processes and outcomes to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Identify features and details on maps and plans
Writing	<ul style="list-style-type: none"> Record accurate and detailed information about smoke and other sightings in logs, reports and records
Oral communication	<ul style="list-style-type: none"> Use appropriate communication methods, equipment and interpersonal techniques to communicate with fire command or control

Skill	Description
Numeracy	<ul style="list-style-type: none"> Estimate speed and bearing of fire

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPFIR2002 Detect fire in a native forest or plantation	FWPFGM2211 Detect fires	Reworded title Updated Application Reworded Performance Criteria Updated Performance Evidence and Knowledge Evidence Updated Foundation Skills and Assessment Conditions	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPFIR2002 Detect fire in a native forest or plantation

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has detected a fire in a native forest or plantation setting and reported sighting details and fire detection process to the fire command or control.

In performing this activity, the individual has:

- located the fire's current position on a digital or print map or plan
- followed workplace procedures for recording the fire and maintaining a chronological log of sightings and fire weather data
- used workplace communication methods for reporting sighting details, including locations, bearings and estimated distances
- identified potentially hazardous situations and sought expert advice
- completed report on fire detection processes and outcomes as required by the workplace.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- smoke:
 - meaning of colour
 - location
 - amount
- fire weather data:
 - wind
 - atmospheric humidity
 - temperature
 - procedures for measuring and recording fire weather data
- maps and plans:

- digital and print
- scale used on maps and plans
- map and plan reading techniques
- map and plan features
- types and operating procedures and protocols for mobile and other communications systems
- risks and hazards associated with fire detection activities
- sighting details:
 - locations
 - bearings
 - estimated distances
- terrain and geographical features visible from a tower or aircraft
- sources of specialist advice on fire and fire detection in forest and plantations:
 - supervisor
 - fire command or control
 - colleague
 - local fire brigade
 - forest management company
- fire command or control conventions for recording and reporting fire sightings
- workplace policies and procedures specific to detecting fires:
 - communication reporting lines
 - recording and reporting fires
 - emergency and evacuation
 - extreme weather.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest or wood products work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - digital or print maps and plans of forest or plantation
 - mobile and other communications equipment suitable for communicating with fire command or control
 - access to fire weather data and current reports
- specifications:
 - access to workplace health, safety and environmental policies and procedures applicable to fire detection operations
 - access to user manual for mobile and other communications equipment

- access to workplace procedures for field operations and for recording and reporting on fire detection processes and outcomes.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPFIR3001 Assess fire risk

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to continually monitor and assess the potential for fire in forestry operations.

The unit applies to individuals working in a broad range of roles in forestry operations.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Fire Control (FIR)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Confirm measures to reduce fire risk	1.1 Determine requirements from site fire risk management plan, including agreed chain of command and control and responsibilities of forest personnel 1.2 Confirm site compliance with the firefighting requirements of relevant fire service or regulatory agency 1.3 Confirm firefighting equipment is fully assembled, available and ready for immediate use at all times 1.4 Check serviceability of communication systems and reception

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>levels</p> <p>1.5 Check features of forest area pertinent to fire risk, including fuel load, maintenance of fire trails, fuel breaks and water storages</p>
2. Evaluate fire risk	<p>2.1 Assess weather conditions, weather reports for changes in prevailing conditions, and fire weather warnings</p> <p>2.2 Identify potential ignition sources, including hot work, chainsaws, friction sources and machinery with potential to create fire hazards</p> <p>2.3 Identify quantity, type and arrangements of fuels found on site with potential to create fire hazards</p> <p>2.4 Assess topography and accessibility of coupe, including the location of escape routes and safe zones</p> <p>2.5 Identify other forest users and their compliance with fire risk management plan</p> <p>2.6 Review risk factors and assess fire risk of forestry activity being undertaken</p> <p>2.7 Determine fire risk level and mitigation measures required to reduce fire risk of forestry activity being undertaken</p>
3. Report fire risk	<p>3.1 Record fire risks associated with forestry activity being undertaken</p> <p>3.2 Report fire risk and potential mitigation measures to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Identify and extract basic information from print and electronic sources on fire risk assessment
Writing	<ul style="list-style-type: none"> Use technical and enterprise specific vocabulary to complete workplace records and forms
Oral communication	<ul style="list-style-type: none"> Use questioning skills to gather information from operational staff on fire risks

Skill	Description
Numeracy	<ul style="list-style-type: none"> Interpret numerical and graphical material in weather reports

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPFIR3001 Assess fire risk	FWPCOR3203 Evaluate fire potential and prevention	Reworded title Updated Application Updated Elements and Performance Criteria Updated Performance Evidence and Knowledge Evidence Updated Foundation Skills and Assessment Conditions	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPFIR3001 Assess fire risk

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has assessed the fire risk while undertaking routine work activities in a daily forestry operation.

In performing this activity, the individual has:

- checked serviceability of firefighting equipment and communication systems
- inspected forest area pertinent to fire risk, identified fire hazards and assessed associated fire risks and control measures factoring in:
 - weather conditions
 - quantity, type and arrangement of fuels
 - ignition sources
 - topography
 - accessibility of coupe
 - communication systems and reception levels
- recorded and reported fire risk and potential mitigation measures.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- fire risk management plans
- weather conditions and their effect on fires:
 - winds
 - electrical storms
 - lightning
 - heat
 - humidity
- fire weather warnings

- fire risks and associated control measures:
 - weather history and patterns
 - quantity, type and arrangement of fuels
 - ignition sources, including hot work, chainsaws, friction sources and machinery with potential to create fire hazards
- factors contributing to the fire risk level
 - topography
 - coupe accessibility
 - availability of water
 - communication systems and reception levels
- features of forest areas pertinent to fire risk:
 - fuel load
 - maintenance of fire trails
 - fuel breaks
 - water storages
- firefighting equipment and communication systems.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forestry work environment or an environment that accurately represents workplace conditions
- resources, equipment, and materials:
 - firefighting equipment
 - weather reports and fire weather warnings
- specifications:
 - access to fire risk management plans
 - access to workplace document for recording fire risks and incidents.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPFIR3002 Apply communication protocols during post-bushfire vegetation clearing and clean-up operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to recognise the command and communication structure and the communications plan that applies to a bushfire impacted area and to communicate effectively with others involved in vegetation clearing and clean-up operations on private and public land, including main roads.

The unit applies to contractors, including harvesting operators and arborists, and agency approved staff and volunteers who are engaged in vegetation clearing and clean-up operations in bushfire impacted areas.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation, standards and industry codes of practice that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Fire Control (FIR)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Communicate with relevant personnel during post-bushfire vegetation clean-up operations	1.1 Recognise roles and authority of personnel in relevant command and communication structure and communications plan 1.2 Participate in briefing and debriefing activities as requested by appropriate personnel 1.3 Identify and communicate situational needs using appropriate communication skills and communication technologies via the command and communication structure 1.4 Use correct terminology to facilitate effective communication with others involved in vegetation clearing and clean-up operations in bushfire impacted area 1.5 Communicate requirements to team members clearly and in a manner that reflects an appropriate level of authority 1.6 Seek and follow direction, advice and assistance as required and appropriate to the situation according to chain of command 1.7 Recognise and resolve communication difficulties and problems using appropriate communication techniques and technologies
2. Communicate complex information during post-bushfire vegetation clean-up operations	2.1 Convey complex information clearly, concisely and accurately to appropriate personnel 2.2 Confirm recipient understanding of information by requesting recipient to repeat message or confirm that message is received and understood, and adjust mode of communication where required
3. Overcome communication barriers during post-bushfire vegetation clean-up operations	3.1 Identify barriers to effective communication, and implement solutions within own level of authority, or report to appropriate personnel according to communication plan 3.2 Respond to conflict and potential for conflict with team members, bushfire agency personnel, people affected by bushfires, community representatives and others in a manner that prevents escalation

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
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Skill	Description
Reading	<ul style="list-style-type: none"> Interpret organisational charts and other documentation detailing command and communication structures
Writing	<ul style="list-style-type: none"> Write basic reports using familiar language and technical terms
Oral communication	<ul style="list-style-type: none"> Use appropriate vocabulary, including technical language directly relevant to role

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPFIR3002 Apply communication protocols during post-bushfire vegetation clearing and clean-up operations	Not applicable	The unit has been created to address a skill or task required by industry that is not covered by an existing unit	Newly created

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPFIR3002 Apply communication protocols during post-bushfire vegetation clearing and clean-up operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual participated in a bushfire vegetation clearing or clean-up operation in two different actual or simulated bushfire impacted areas.

In performing each of these tasks, the individual has:

- communicated effectively with people involved in the bushfire vegetation operation in line with the command and communications structure and communications plan
- used correct terminology when communicating with people involved in the bushfire vegetation clearing or clean-up operation
- participated in briefing and debriefing activities
- communicated complex information related to the bushfire vegetation clearing or clean-up operation according to the command and communications structure and communications plan
- recognised communication barriers or possible conflict situations with team members or others in the bushfire impacted area, and devised solutions within own area of responsibility.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- bushfire and post-bushfire command and communications structure and communication plan, including:
 - management structure
 - communications plan
 - radio channels

- strategic telephone numbers
- digital platforms
- communication protocols as specified in Australasian Inter-service Incident Management System (AIIMS) command and communication structure relevant to individuals working in bushfire impacted areas, including local variations approved by individual states and territories and relevant agencies
- purpose, scheduling and format of briefings and debriefings related to bushfire vegetation operations
- bushfire warnings and advice applicable in bushfire impacted areas
- bushfire recovery plans and workplace procedures in relation to bushfire vegetation operations
- operational hazards and safe systems of work for personnel working in bushfire impacted areas
- layout of area under control and potential obstacles for contractors and others involved in bushfire vegetation operations
- procedures for contacting emergency personnel and other relevant stakeholders during bushfire vegetation operations
- stakeholders in bushfire and post-bushfire vegetation operations, including:
 - contractors
 - bushfire agency
 - bushfire recovery personnel
 - people affected by bushfires
 - community representatives
- terminology used in bushfire and post-bushfire operations and in relation to bushfire vegetation clearing and clean-up operations
- procedures for communicating and confirming understanding of complex information related to bushfire vegetation operations
- typical communication difficulties and problems that may occur in bushfire vegetation operations, and the appropriate action to be taken in each case.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - communication plan used in bushfire and post-bushfire operations
 - communications systems used in bushfire and post-bushfire operations
- specifications:
 - organisational description of chain of command in bushfire and post-bushfire operations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPFIR4001 Conduct tree hazard assessment post-fire

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to conduct hazard assessment of fire affected or fire damaged trees during the early stages of bushfire recovery and make recommendations on risk treatment.

The unit applies to individuals authorised by emergency management agencies to assess tree hazard during the early stages of bushfire recovery operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation, standards and industry codes of practice that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Fire Control (FIR)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for work in bushfire recovery	1.1 Maintain up-to-date information on topography, hazards and weather conditions in bushfire recovery area

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
operations	<p>1.2 Maintain situational awareness in bushfire recovery area</p> <p>1.3 Follow health and safety environmental protection practices and/or procedures, including use of personal protective equipment and hazard and risk control measures, relevant to bushfire recovery operations</p> <p>1.4 Confirm chain of command and communication protocols that apply in bushfire recovery operations</p>
2. Identify, mark and isolate tree hazard	<p>2.1 Conduct hazard assessment of route to and areas around tree to determine it is safe to approach</p> <p>2.2 Determine location and position of tree in relation to site topography and other hazards at site</p> <p>2.3 Establish risk to self and others posed by tree hazard and other factors in immediate vicinity of the tree</p> <p>2.4 Mark tree, if safe to do so, using spray paint according to industry guidelines and agency approved symbols</p> <p>2.5 Isolate tree with barrier tape according to industry guidelines and agency approved procedures</p>
3. Assess tree hazard	<p>3.1 Assess visually extent of fire damage to crown, trunk and root from the appropriate safe distance</p> <p>3.2 Identify structural and physiological defects in tree</p> <p>3.3 Assess external factors that may cause tree or its limbs and branches to fall</p> <p>3.4 Determine risks posed by tree according to workplace procedures</p> <p>3.5 Identify tree hazard class according to industry guidelines and agency approved procedures</p> <p>3.6 Identify potential environmental, cultural and economic values of tree and, where required, consult with appropriately qualified person on risk treatment options</p> <p>3.7 Determine appropriate risk treatment to mitigate tree hazard according to industry guidelines and agency approved procedures</p> <p>3.8 Record and report outcomes of tree assessment to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret routine text and pictorial workplace documentation relevant to identification and treatment of fire damaged or fire affected hazardous trees
Oral communication	<ul style="list-style-type: none"> Use appropriate vocabulary including technical language directly relevant to role

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPFIR4001 Conduct tree hazard assessment post-fire	Not applicable	The unit has been created to address a skill or task required by industry that is not covered by an existing unit	Newly created

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPFIR4001 Conduct tree hazard assessment post-fire

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has conducted a hazard assessment of five fire damaged or fire affected trees, which include two different species.

In performing each of these tasks, the individual has:

- complied with health and safety requirements, including use of personal protective equipment
- conducted a dynamic risk assessment of route to and areas around tree
- identified risks to self and others posed by tree according to workplace procedures
- identified ecological, cultural and economic value of tree
- assessed and determined treatment options for tree
- reported on assessment and treatment options for tree.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- health and safety work procedures relevant to bushfire recovery operations
- workplace hazards and associated risks and controls in bushfire recovery operations, including those associated with fire affected and fire damaged trees
- tree species and effects of fire on different trees species
- hazards associated with fire affected and fire damaged trees
- factors influencing assessment of tree hazard risk and the values in retaining the tree, including:
 - structural characteristics of trees
 - likely timeframe in which the tree, limb or branch might be expected to fall
 - tree exposure to causal factors and external influences of tree hazard
 - quantity of trees to be assessed

- potential of tree to interact with other hazards or assets (e.g., power lines, buildings)
- operational context
- possible risk control measures that may be applied in context
- cultural, social or economic values associated with a tree or its immediate surroundings
- ecological values at the site
- external factors that increase potential tree hazard, including:
 - wind exposure
 - drought
 - stress and insect infestation
 - excessive drainage problems from land management operations
 - exposure to vibration from heavy plant or machinery
- other hazards at the site that increase potential tree hazard, including:
 - gas supplies
 - water supplies
 - powerlines (above and below ground)
 - adjacent buildings
 - features of adjacent trees
 - terrain features
- characteristics of hazardous trees, including:
 - dead and/or decaying tree and/or major branches
 - evidence of previous damage, including burn or mechanical processes
 - suspected loose or broken branches
 - evidence of longitudinal or torsion fractures
 - evidence of roots lifting or disturbed root system
 - significant lean with indicators of failure
 - cavities and hollows in the main trunk and root buttress area
- industry guidelines and agency approved policies and procedures for tree hazard management in bushfire recovery regarding:
 - tree hazard isolation
 - tree hazard marking and mapping symbols
 - tree hazard classes – clear and present danger tree (CPD), potential clear and present danger trees (potential CPD)
 - tree hazard treatment – removal of tree or removal of branch/limb, exclusion, communication of ongoing risk to relevant qualified personnel
- characteristics of culturally significant trees, including Aboriginal sacred trees, and workplace procedures for managing significant trees, including who to contact if a culturally significant tree is identified
- techniques for recording position of trees using Global Navigation Satellite System (GNSS)
- reporting procedures associated with tree hazards.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - fire damaged or fire affected trees
 - communications systems relevant to work activity
 - equipment and materials relevant to work activity
 - personal protective equipment relevant to work activity
 - GNSS
- specifications:
 - workplace health and safety and environmental protection policies and/or procedures relevant to work activity
 - workplace documentation for recording information relevant to work activity.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPFOM5001 Contribute to and implement a forest establishment plan

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to contribute to and implement a forest establishment plan. The unit also applies to an area that is to be used for multiple uses, such as farm forestry.

The unit applies to individuals who contribute to the development and implementation of forest establishment plans.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Forest Operations Management (FOM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for developing forest establishment plan	1.1 Confirm location and regulatory requirements impacting on plantation site and conduct site assessment according to workplace

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>procedures and the principles of good forest establishment planning</p> <p>1.2 Review site factors impacting on forest establishment planning</p> <p>1.3 Review regulatory requirements, existing land use and other plans to assess impact on proposed plantation</p> <p>1.4 Confirm location of cultural, archaeological, historic, recreational, scenic, geomorphic or biological sites within the plantation area that may be affected by plantation operations</p> <p>1.5 Consult with neighbouring landowners, local land care groups, Indigenous communities and stakeholders, and obtain input into the design for the site</p> <p>1.6 Review organisational plans and strategies and how they relate to plantation requirements</p> <p>1.7 Develop measurable performance indicators, specifications and targets for the plantation</p> <p>1.8 Report outcomes of initial analysis to appropriate personnel, and confirm further actions</p>
2. Support development of forest establishment plan	<p>2.1 Arrange surveys and determine species tolerances for the site</p> <p>2.2 Develop design components and obtain approvals</p> <p>2.3 Liaise and seek support from senior personnel during preparation of draft forest establishment plan, as required</p> <p>2.4 Produce draft forest establishment plan according to workplace procedures and regulatory requirements</p> <p>2.5 Communicate design plan and performance indicators to appropriate personnel and confirm further actions</p>
3. Coordinate implementation of forest establishment plan	<p>3.1 Confirm contractual arrangements with contractors for implementation of forest establishment plan</p> <p>3.2 Monitor ongoing implementation of forest establishment operations against establishment plan</p> <p>3.3 Monitor contractor compliance with production, environmental protection and other contractual requirements</p> <p>3.4 Identify and resolve contractor non-compliances within scope of responsibility and workplace procedures</p> <p>3.5 Report on implementation of forest establishment plan to appropriate personnel</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
4. Review implementation of forest establishment plan	<p>4.1 Gather and assess information on implementation of forest establishment plan according to workplace procedures</p> <p>4.2 Consult with contractors, senior personnel and other stakeholders on potential improvements to forest establishment plan</p> <p>4.3 Report on review of forest establishment plan, including suggestions for future improvements to planning and implementation of forest establishment operations, to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret written regulatory and environmental information affecting forest establishment plans
Writing	<ul style="list-style-type: none"> Prepare complex written documents, including detailed approval applications for forest establishment plans
Oral communication	<ul style="list-style-type: none"> Use verbal and non-verbal communication and active listening skills to communicate with contractors and resolve issues associated with the implementation of forest establishment plans
Numeracy	<ul style="list-style-type: none"> Perform calculations and conversions of area, volume, cost, scale and production related to forest establishment plans

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPFOM5001 Contribute to and implement a forest establishment plan	FWPFGM4203 Design plantations	<p>Revised title</p> <p>Revised Elements and Performance Criteria</p> <p>Revised Foundation Skills</p>	Not equivalent

		Revised Performance Evidence and Knowledge Evidence Revised Conditions of Assessment	
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Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPFO5001 Contribute to and implement a forest establishment plan

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, under the supervision of a senior forester, the individual has contributed to the development of one forest establishment plan.

In undertaking this activity, the individual has:

- confirmed requirements pertinent to forest establishment planning
- conducted site assessment obtaining information from relevant sources to include in the plan
- established performance indicators
- designed at least one of the following components:
 - roads
 - fences
 - drainage channels
 - forest area boundaries
- confirmed contractual requirements for the forest establishment operations, monitored contractor compliance in relation to at least one of the following:
 - production
 - environmental protection
- presented recommendations for future improvements to planning and implementation of forest establishment operations.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- commonwealth, state or territory or local government legislative and regulatory requirements and codes of practice relevant to designing plantations
- relevant species characteristics and selection information, including:

- appropriate species
- provenance
- distribution and hardiness of trees to be sown or planted to suit the area to be planted
- factors relevant to a site assessment:
 - soil types
 - site rainfall characteristics
 - understory species
 - canopy
 - general forest lean
 - wind speed and direction
 - fallen trees
 - retained vegetation
 - density of trees
 - ground slope
 - soil and water protection
 - ground hazards and obstacles
 - contingencies for modifying operations during wet or other adverse weather conditions
 - hygiene of the area
 - relevant commonwealth, state or territory, and local legislation and regulations
- design components, including:
 - roads
 - fences
 - drainage channels
 - forest area boundaries
- site factors to consider in forest establishment planning:
 - areas visible from critical observer points, such as lookouts, nearby towns and major highways
 - modification of visible edges with retention of existing vegetation or planting of other species
 - age class boundaries and timing of establishment to minimise the visual and environmental impact of site preparation and harvesting and the risk of loss due to natural disasters
 - opportunities to enhance connective values of existing native vegetation
 - the presence of important cultural, archaeological, historic, recreational, scenic, geomorphic or biological sites within the plantation area that may be affected by plantation operations, and measures that could be taken to protect these sites
 - intensity, location and design of roads
 - consultation with Indigenous communities, neighbouring landholders and local landcare groups
- environmental protection requirements relevant to plantation design
- workplace policies and procedures for designing plantations:

- tending plans
- harvesting plans
- workplace marketing and strategic plans
- plans or regulations relating to chemical use and environmental requirements
- environmental risks and hazards in the area of the proposed site
- common diseases, pests and nutritional deficiencies that affect plantations
- the principles of good forest establishment planning.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - computing hardware and software for documenting forest establishment plans
- specifications:
 - reference materials, including topographic maps, information on land use zonings and application forms, template forest establishment plans
 - requirements for a forest establishment plan
 - workplace safety and environmental policies and procedures applicable to forestry operations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPFOM5002 Contribute to and implement a forest roading operational plan

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to contribute to the development and implementation of a forest roading operational plan.

The unit applies to individuals with responsibility for the development and implementation of forest roading operational plans.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Forest Operations Management (FOM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare forest roading operational plan	1.1 Review forest management plan and road development requirements 1.2 Obtain and assess logging and topography details and

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>environmental management considerations</p> <p>1.3 Review road location, design and construction requirements and analyse costs, benefits and impact on the forest</p> <p>1.4 Review timeframe for use of the road and likely weather conditions and determine impact on road and track design and operational plans</p> <p>1.5 Confirm scope of logging operations, including extraction methods, falling and recovery rates, type of logging equipment and delivery schedules, and determine impact on road and track design and operational plans</p> <p>1.6 Consult with authorities and obtain approvals for road development</p> <p>1.7 Liaise with and seek support from senior personnel during preparation of plan, as required</p> <p>1.8 Produce draft plan according to workplace procedures</p> <p>1.9 Forward draft plan to appropriate personnel and confirm further actions</p>
2. Oversee implementation of forest roading operational plan	<p>2.1 Brief supervisors on road and track design and operational plans</p> <p>2.2 Monitor road construction and maintenance activities</p> <p>2.3 Maintain communication with supervisors, operational staff, clients and contractors throughout maintenance activities to ensure smooth operations</p> <p>2.4 Monitor compliance with environmental, safety and quality standards</p> <p>2.5 Check that performance indicators, targets and specifications are being met and that process or methods are amended as required</p> <p>2.6 Provide technical assistance to site personnel in constructing and maintaining roads and tracks</p>
3. Review and report on implementation of road construction and maintenance plan	<p>3.1 Analyse data and documentation from construction or maintenance activities, and measure performance against forest roading operational plan</p> <p>3.2 Make recommendations for improvements and further work</p> <p>3.3 Prepare reports on implementation of road construction and maintenance plan according to workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extract information from industry guides and standard references
Writing	<ul style="list-style-type: none"> Complete detailed written reports on progress against road construction and maintenance plan
Oral communication	<ul style="list-style-type: none"> Ask open and closed questions and use active listening techniques to clarify road construction and maintenance requirements Engage with and influence stakeholders on matters related to road construction and maintenance
Numeracy	<ul style="list-style-type: none"> Perform complex calculations related to road construction cost, earthworks, clearing, surveying and drainage Interpret statistics and graphical information on production, safety and quality indicators

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPFOM5002 Contribute to and implement a forest roading operational plan	FWPFGM5208 Manage road construction and maintenance	Updated unit title Updated Application, Performance Criteria, Performance Evidence and Knowledge Evidence Updated Assessment Conditions	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWP FOM5002 Contribute to and implement a forest roading operational plan

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, under the supervision of a senior forester, the individual has developed one forest roading operational plan and overseen road construction.

In performing this activity, the individual has:

- confirmed requirements pertinent to forest roading operational planning and scope of logging operations
- consulted with appropriate personnel on draft forest roading operational plan
- coordinated forest roading operations and monitored compliance against performance indicators and specifications
- prepared recommendations for future improvements to planning and implementation of forest roading operations.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- workplace policies and procedures for managing road construction and maintenance
- environmental risks and hazards associated with road construction
- materials used for road construction and their properties, including:
 - road base
 - gravel
 - crushed rock
 - sand and bluestone
 - cords and pipes for water crossings
- logging operations and log extraction methods
- road construction and maintenance procedures
- principles of road design and development, including:

- control points
- required grades
- water crossing points and structures
- types of tools, plant and equipment used for road construction, and procedures for their safe use and maintenance.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - a section of native forest or plantation for road construction or maintenance
- specifications:
 - maps, plans, regulations and other documentation relevant to the construction and maintenance of roads in a forestry setting
 - workplace safety and environmental policies and procedures applicable to road construction and maintenance
 - workplace policies and procedures relevant to managing road construction and maintenance.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPFOM5003 Contribute to and implement a forest harvesting plan

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to contribute to the development and implementation of a forest harvesting plan for established coupes with the aim of maximising output and cost efficiencies.

The unit applies to individuals who are involved in developing and implementing forest harvesting plans.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Forest Operations Management (FOM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for developing forest harvesting plan	1.1 Assess workplace health and safety, environmental and regulatory requirements for harvest activities

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.2 Determine coupe locations using map and grid references, and establish boundaries</p> <p>1.3 Identify local authority coverage and approved land use zonings, and apply for approvals</p> <p>1.4 Obtain land ownings according to workplace procedures</p> <p>1.5 Assess ramifications of environmental issues documented in previous harvesting plans</p> <p>1.6 Report outcomes of initial findings to appropriate personnel, and confirm further actions</p>
2. Support development of forest harvesting plan	<p>2.1 Assess and record topography, forest types and available species</p> <p>2.2 Calculate gross area of each coupe and determine net area to be harvested</p> <p>2.3 Calculate and record volume estimates for each coupe</p> <p>2.4 Determine harvesting and cartage requirements</p> <p>2.5 Assess environmental conditions and plan site preparation, access and operational activities</p> <p>2.6 Liaise and seek support from senior personnel during preparation of draft harvesting plan, as required</p> <p>2.7 Produce draft harvesting plan according to workplace procedures</p> <p>2.8 Forward draft harvesting plan to appropriate personnel and confirm further actions</p>
3. Coordinate implementation of harvesting plan	<p>3.1 Confirm contractual arrangements with contractors for implementation of harvesting plan</p> <p>3.2 Monitor ongoing implementation of harvesting operations against harvesting plan</p> <p>3.3 Monitor contractor compliance with production, environment protection and other contractual requirements</p> <p>3.4 Identify and resolve contractor non-compliances within scope of responsibility and workplace procedures</p> <p>3.5 Report on implementation of harvesting plan to appropriate personnel</p>
4. Review implementation of harvesting plan	<p>4.1 Gather and assess information on implementation of harvesting plan according to workplace procedures</p> <p>4.2 Consult with contractors, senior personnel and other stakeholders</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	on potential improvements to harvesting plan 4.3 Forward report on review of harvesting plan, including suggestions for future improvements to planning and implementation of harvesting operations, to appropriate personnel

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret complex written regulatory and environmental information affecting harvesting plans
Writing	<ul style="list-style-type: none"> Prepare complex written documents, including detailed approval applications for harvesting plans
Oral communication	<ul style="list-style-type: none"> Use verbal and non-verbal communication and active listening skills to communicate with contractors and resolve issues associated with implementation of harvesting plans
Numeracy	<ul style="list-style-type: none"> Perform calculations involving gross and nett spatial areas, volumes of extraction and weight for cartage

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPFOM5003 Contribute to and implement a forest harvesting plan	FWPHAR5201 Design harvest plans	Redesigned unit that includes content from FWPHAR5201 Design harvest plans, and FWPFGM5216 Manage coupe planning	Not equivalent
FWPFOM5003 Contribute to and implement a forest	FWPFGM5216 Manage coupe	Redesigned unit that includes content from FWPHAR5201 Design	Not equivalent

harvesting plan	planning	harvest plans, and FWPFGM5216 Manage coupe planning	
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Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWP FOM5003 Contribute to and implement a forest harvesting plan

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, under the supervision of a senior forester, the individual has developed a harvesting plan for an established coupe and overseen harvesting operations.

In undertaking this activity, the individual has:

- confirmed requirements pertinent to forest harvesting planning and obtained approvals for land use zoning and land owning
- determined coupe locations, assessed site conditions and calculated area and volumes to be harvested
- planned site preparation, including access to site and operational activities
- consulted with appropriate personnel on draft harvesting plan
- confirmed contractual requirements for the forest harvesting operations, monitored contractor compliance in relation to at least one of the following:
 - production
 - environmental protection
- presented recommendations for future improvements to planning and implementation of forest harvesting operations.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- commonwealth, state, territory or local government regulations and codes of practice relevant to harvesting operations
- harvesting plans:
 - principles of harvest planning
 - purpose of harvesting plans
 - format and content of harvesting plans

- land use zoning and land owning approval processes
- harvesting and extraction methods
- operational issues impacting on harvesting operations:
 - contractual arrangements with harvesting contractors and other suppliers
 - site preparation
 - operation of landings and snig tracks
 - cartage operations
 - environmental hazards
 - physical and cultural environment protection practices
 - workplace health and safety hazards
 - risks and control measures
 - fire protection requirements
 - wet weather operations and restrictions
- workplace standards, policies and procedures for the design and implementation of harvest activities:
 - workplace health and safety for harvesting operations
 - environmental protection
 - documenting harvesting plans
 - communication reporting lines for plan content.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - access to coupes to be harvested
 - computing hardware and software for documenting harvesting plans
- specifications:
 - reference materials for coupes to be harvesting, including topographic maps, information on land use zonings and application forms, template harvesting plans
 - workplace standards, policies and procedures for the development and implementation of harvesting plans
 - access to commonwealth, state, territory or local government regulations and codes of practice relevant to harvesting operations
 - workplace safety and environmental policies and procedures applicable to forestry operations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPFOM5004 Contribute to and implement a forest regeneration plan

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to contribute to the planning and implementation of the regeneration or revegetation of an area of forest for timber production.

The unit applies to individuals who are involved in planning and implementing the regeneration or revegetation of forested areas for timber production.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Forest Operations Management (FOM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare regeneration plan	1.1 Identify requirements for a forest regeneration plan 1.2 Review workplace procedures, environmental protection measures

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>and legislative and regulatory requirements related to regenerating or revegetating forested areas for timber production</p> <p>1.3 Confirm site, timeline, budget and method of regeneration</p> <p>1.4 Consult with workplace personnel and other stakeholders to obtain input to the plan</p> <p>1.5 Seek necessary approvals and obtain permissions according to workplace procedures</p> <p>1.6 Liaise and seek support from senior personnel during preparation of plan, as required</p> <p>1.7 Produce draft plan according to workplace procedures</p> <p>1.8 Forward draft plan to appropriate personnel and confirm further actions</p>
2. Coordinate implementation of regeneration plan	<p>2.1 Confirm availability of resources to implement planned regeneration or revegetation activities</p> <p>2.2 Implement emergency treatments and hazard notification procedures</p> <p>2.3 Communicate plan to contractor or work team as appropriate</p> <p>2.4 Coordinate implementation of forest regeneration plan with reference to budget, schedule, performance indicators and objectives</p> <p>2.5 Report on implementation of regeneration plan to appropriate personnel</p>
3. Monitor forest regeneration	<p>3.1 Gather and assess information on performance at key milestones or established review periods</p> <p>3.2 Check that environmental, workplace health and safety and legislative compliance requirements are met and that documentation is accurate and up-to-date</p> <p>3.3 Maintain communication with senior forester and operations supervisor throughout implementation of the plan</p> <p>3.4 Make suggestions for amending forest regeneration plan to ensure that specifications, quality and performance targets are meeting planned requirements</p> <p>3.5 Report on outcomes of monitoring activities to appropriate personnel</p>
4. Review forest	4.1 Review outcomes against established objectives

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
regeneration plan	<p>4.2 Consult with contractors, senior personnel and other stakeholders on potential improvements to regeneration plan</p> <p>4.3 Forward report on review of regeneration plan, including suggestions for future improvements to planning and implementation of regeneration and revegetation operations, to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret written regulatory and environmental information affecting regeneration or revegetation operations
Writing	<ul style="list-style-type: none"> Prepare complex written documents, including detailed approval applications for regeneration or revegetation operations
Oral communication	<ul style="list-style-type: none"> Use verbal and non-verbal communication and active listening skills to communicate with operational staff and resolve issues associated with implementation of harvest plans
Numeracy	<ul style="list-style-type: none"> Perform routine calculations involving number, volume, weight, density and area Perform calculations involving gross and nett spatial areas, volumes of extraction and weight for cartage

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPFOM5004 Contribute to and implement a forest regeneration plan	FWPFGM5214 Develop a native forest regeneration plan	<p>Revised title</p> <p>New Elements and Performance Criteria</p> <p>Revised Performance Evidence and Knowledge</p>	Not equivalent

		Evidence Revised Assessment Conditions	
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Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPFOM5004 Contribute to and implement a forest regeneration plan

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, under the supervision of a senior forester, the individual has developed one forest regeneration plan and overseen forest regeneration operations.

In undertaking this activity, the individual has:

- confirmed requirements pertinent to forest regeneration planning
- obtained information from relevant sources to include in the plan
- consulted with appropriate personnel on draft forest regeneration plan
- coordinated and monitored forest regeneration operations against budget, schedule, performance indicators and objectives
- prepared recommendations for future improvements to planning and implementation of forest regeneration operations.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- commonwealth, state or territory legislation, regulations, standards, codes of practice for forests
- workplace policies and procedures on forest regeneration
- environmental protection requirements for forests, including:
 - soil disturbance measures
 - retention tree damage
 - fungal hygiene measures
 - identification of habitat trees
 - chemical handling and application procedures
- authorisations and permits relevant to forest regeneration plans:

- permits
- approvals
- licences relating to neighbouring properties
- methods of regeneration, including:
 - prescription burning
 - infill planting to support directional natural regeneration
 - pathways
 - direct seeding
 - crop tree retention
- stakeholders relevant to forest regeneration plans, including:
 - clients
 - neighbours
 - relevant groups/bodies
 - local, state and federal government bodies and agencies
 - local interest/lobby groups
 - friends' groups
 - representatives of industry bodies
- principles of forest science relevant to regeneration and revegetation:
 - biology of the target species
 - hydrology and hydrological principles
 - original and potential ecosystems for the target area
 - common diseases, pests and nutritional deficiencies
 - soil types and structure
 - plant identification and classification
 - ecology and ecological interactions
 - seed collecting and distribution seasons for the target species
- procedures for recording workplace information.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - forest area for developing a forest regeneration plan
 - computing hardware and software for documenting forest regeneration plans
- specifications:

- reference materials, including topographic maps, information on land use zonings and application forms, template forest regeneration plans
- workplace standards, policies and procedures for the development and implementation of forest regeneration plans
- access to commonwealth, state, territory or local government regulations and codes of practice relevant to forest regeneration
- workplace safety and environmental policies and procedures applicable to forest regeneration operations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPFOM5005 Contribute to and implement a biohazard contingency plan

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to contribute to the development and implementation of plans to manage the risk of biohazard incidents involving fungal, viral, bacterial, insect and vertebrate infestations. Plans are developed to ensure hazards are controlled and that any infestation has minimal social, economic and environmental impact.

The unit applies to individuals who are involved in developing and implementing plans to manage the risk of biohazard incidents.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Forest Operations Management (FOM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Review legal and	1.1 Identify legislation, regulations and industry and workplace

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
system requirements	standards relevant to managing biohazards and controlling infestation 1.2 Review traceability chain for biohazard documentation to ensure compliance with appropriate standards 1.3 Evaluate workplace biohazard contingency management practices 1.4 Identify communication protocols for inclusion in the contingency plan
2. Support development of contingency plan	2.1 Identify the range of potential biohazards present in organisational operations, and the potential impacts of biohazard infestations 2.2 Undertake risk assessment for the potential of biohazard infestations 2.3 Identify control measures for limiting the spread of infestations, and check that adequate risk controls are in place 2.4 Identify routine infestation treatments and action plans for inclusion in contingency plan 2.5 Incorporate communication protocols in the contingency plan 2.6 Liaise with and seek support from senior personnel during preparation of plan, as required 2.7 Document training and induction processes for workforce involved with the implementation of risk controls 2.8 Produce draft plan according to workplace procedures 2.9 Forward draft plan to appropriate personnel and confirm further actions
3. Coordinate implementation of contingency plan	3.1 Organise support and resources to enable implementation of the biohazard contingency plan 3.2 Implement continuous improvement processes to ensure plan remains effective, and gain approval for changes 3.3 Monitor activities on an ongoing basis to identify potential biohazard incidents and implement changes to plan 3.4 Report on implementation of contingency plan to appropriate personnel

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret complex written information from a range of internal and external source documents to develop effective biohazard contingency plans
Writing	<ul style="list-style-type: none"> Develop and document comprehensive biohazard contingency plans in a style and format easily understood by the full scope of organisational employees
Oral communication	<ul style="list-style-type: none"> Use verbal and non-verbal communication and active listening skills to communicate with operational staff and resolve issues associated with implementation of contingency plans
Numeracy	<ul style="list-style-type: none"> Perform complex calculations to establish economic impacts of biohazard infestations

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPFOM5005 Contribute to and implement a biohazard contingency plan	FWPCOT5205 Develop biohazard contingency plan	Revised title New Elements and Performance Criteria Revised Performance Evidence and Knowledge Evidence Revised Assessment Conditions	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPFO5005 Contribute to and implement a biohazard contingency plan

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, under the supervision of a senior forester, the individual has developed, coordinated, reviewed and reported on the implementation of one biohazard contingency plan to manage the risk of at least one biohazard selected from the following type of infestations in a forest and wood products industry setting:

- fungal
- viral
- bacterial
- insect
- vertebrate.

In undertaking this activity, the individual has:

- checked traceability chain for biohazard documentation for legal and system compliance
- evaluated workplace biohazard contingency management practices
- conducted risk assessment for the potential of biohazard infestations, checked that adequate risk controls are in place
- documented routine infestation treatments, action plans, communication protocols and training and induction for workforce in a draft biohazard contingency plan and confirmed further actions
- coordinated resources, monitored activities and reported on biohazard contingency plan.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- commonwealth, state or territory legislation and regulations relevant to managing biohazards and controlling infestations

- industry and workplace standards for managing the traceability chain of biohazard documentation
- characteristics of a range of potential biohazards present in forest and wood products industry operations, including:
 - fungal hazards
 - viral hazards
 - bacterial hazards
 - insect hazards
 - vertebrate hazards
- methods used to control biohazard infestations and limit the spread:
 - eradication
 - quarantine
 - fumigation
 - use of pesticides
 - use of biological controls
 - culling of infected plants
- economic impacts of biohazard infestations and methods used to estimate monetary losses:
 - loss of forest values
 - loss of current markets
 - loss of potential markets
 - damage to trading status
- environmental impacts of biohazard infestations
- purpose, format, content and use of biohazard contingency plans
- methods used to train personnel on the content of biohazard contingency plans and their role in implementing it
- workplace procedures for documenting and communicating plans.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - computing hardware and software for documenting biohazard contingency plans
- specifications:
 - commonwealth, state or territory legislation and regulations relevant to managing biohazards and controlling infestations
 - industry and workplace standards for managing the traceability chain of biohazard documentation

- worksheets and proformas commonly used to develop, implement, monitor, evaluate and communicate a biohazard contingency plan
- workplace standards, policies and procedures for managing risks of biohazard infestations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPFOM5006 Implement practices to maximise value from wood residues

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to evaluate and implement effective wood management practices that ensure maximum product value recovery and adherence to environmentally sustainable principles. It can apply to the full scope of forest and wood products industry workplaces and to operations of all sizes.

The unit applies to individuals who are responsible for maximising product value recovery in forest operations.

All work must be carried out to comply with workplace procedures according to state/territory health and safety and food safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Forest Operations Management (FOM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Scope a value	1.1 Review management plans and workplace priorities with respect to

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
maximisation plan	<p>value maximisation requirements</p> <p>1.2 Identify required production authorisations, determine timeline and budget and check with appropriate personnel</p> <p>1.3 Determine applications and demand for wood and residue material, and document according to workplace procedures</p> <p>1.4 Determine and document any special process requirements and product value chain</p> <p>1.5 Consult with stakeholders to obtain input to the plan</p> <p>1.6 Determine and document most appropriate value maximisation options for the organisation or site</p>
2. Develop and document a value maximisation plan	<p>2.1 Identify legal, workplace, environmental protection and best practice parameters governing wood management practices</p> <p>2.2 Determine and document in the plan the most appropriate value maximisation practices for the workplace</p> <p>2.3 Document methodology, schedule, budget and legal requirements for implementation of value maximisation practices</p> <p>2.4 Define technology, materials and resources required for implementation of value maximisation plan</p> <p>2.5 Develop value maximisation plan and submit to the appropriate personnel for approval</p>
3. Implement value maximisation practices	<p>3.1 Implement value maximisation practices identified in the plan according to methodology, schedule, budget and legal requirements</p> <p>3.2 Obtain required authorisations for use of technology, materials and resources</p> <p>3.3 Communicate production schedule for value maximisation plan to appropriate personnel</p> <p>3.4 Establish processes to monitor implementation of the plan</p>
4. Review implementation of value maximisation plan	<p>4.1 Monitor value maximisation plan and review against methodology and production schedule</p> <p>4.2 Analyse information and data to determine effectiveness of value maximisation practices</p> <p>4.3 Prepare improvement recommendations based on information, data analysis and consultative processes</p> <p>4.4 Record and report outcomes to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Oral communication	<ul style="list-style-type: none"> Engage in high-level consultative discussions to generate ideas for and negotiate content of value maximisation plans
Reading	<ul style="list-style-type: none"> Interpret complex written information in a range of internal and external source documents to plan maximisation practices
Writing	<ul style="list-style-type: none"> Develop and document comprehensive value maximisation plans in a style and format easily understood by a range of employees
Numeracy	<ul style="list-style-type: none"> Interpret and calculate complex numerical data to establish and manage budgets

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPFOM5006 Implement practices to maximise value from wood residues	FWPCOR6202 Implement practices to maximise value from wood residues	Minor edits to Elements and Performance Criteria Updated Performance Evidence, Knowledge Evidence and Conditions of Assessment to meet requirements of Standards for Training Packages	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPFO5006 Implement practices to maximise value from wood residues

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has developed, documented and coordinated the execution and evaluation of one wood value maximisation plan for a forest or wood products operation.

In performing this activity, the individual has:

- established the extent of the wood value maximisation strategy, as well as the legal, occupational, environmental, and best practise standards
- detailed the methodology for the execution of wood value maximisation, including timetable, budget, legal requirements, technology, materials, and resources required, as well as the most relevant practices.
- communicated production schedule for maximising the value of the product according to the plan
- monitored and reported implementation of the plan against methodology and production schedule
- provided recommendations for future improvements based on information, data analysis and consultative processes.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- commonwealth, state or territory legislation or regulations applicable to wood management practices
- current government and industry initiatives, codes of practice and guidelines relevant to wood management practices
- different applications for wood and residue material, markets and general market value:
 - poles
 - piles and bridge timbers

- veneer logs
- saw logs
- chip logs
- charcoal logs
- woody biomass
- structural and non-structural timbers
- timber composites
- timber panel products
- timber engineered products
- eucalyptus oil
- extractives
- potential uses for wood residues and by-products, markets and general market value
- production practices that avoid or reduce wood residues
- role of wood or waste products in generating renewable energy through biomass
- authorisations, permits and licences relating to:
 - sites or properties
 - hours of operation
 - use and application of chemicals
 - environmental issues
- processes and practices for:
 - internal and external consultation
 - developing and implementing value maximisation plans
 - collecting and analysing relevant data
 - evaluating and modifying plans
- format, content and use of value maximisation plans.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - computing equipment to prepare wood value maximisation plans
- specifications:
 - comprehensive information about the operation of a real or simulated business to determine value maximisation practices
 - workplace policies and procedures regarding wood value maximisation
 - access to workplace safety and environmental policies and procedures applicable to forestry operations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPFOM5007 Contribute to and implement a silviculture regime for a plantation

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to select a silviculture regime consistent with plantation management objectives, and contribute to the planning, implementation and monitoring of a silviculture regime for a plantation.

The unit applies to individuals who undertake forester or forestry field officer job roles in the forest industry.

All work must be carried out to comply with workplace procedures according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Forest Operations Management (FOM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Select silviculture regime consistent with plantation management	1.1 Confirm plantation management objectives 1.2 Access sources of information required for making decisions on the choice of plantation silviculture regime

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
objectives	1.3 Identify silviculture regime to achieve plantation management objectives
2. Plan plantation silviculture operations	<p>2.1 Plan harvesting prescriptions consistent with plantation management objectives</p> <p>2.2 Plan site establishment and planting prescriptions consistent with plantation management objectives</p> <p>2.3 Plan spacing and thinning after establishment to manage competition between trees</p> <p>2.4 Plan tending and pruning prescriptions consistent with plantation management objectives</p> <p>2.5 Plan for control of perennial and annual weeds to achieve high survival, good growth rates and plantation access</p> <p>2.6 Plan browsing controls consistent with plantation management objectives</p> <p>2.7 Prepare guidelines for use of herbicides, pesticides and fertilisers in plantation management</p> <p>2.8 Plan crop protection measures consistent with plantation management objectives</p> <p>2.9 Plan surveys for post-harvest monitoring</p> <p>2.10 Establish schedule for plantation silviculture activities according to workplace procedures</p> <p>2.11 Calculate cost of plantation silviculture operations according to workplace procedures</p>
3. Coordinate implementation of plantation silviculture operations	<p>3.1 Coordinate implementation of silviculture operations</p> <p>3.2 Monitor staff and contractor compliance with prescriptions for silviculture operations</p> <p>3.3 Identify and resolve incidents of non-compliances within scope of responsibility and workplace procedures</p> <p>3.4 Report on implementation of silviculture operations to appropriate personnel</p>
4. Monitor effectiveness of plantation silviculture operations	<p>4.1 Implement monitoring procedures, including survival assessments, for assessing effectiveness of silviculture operations</p> <p>4.2 Analyse outcomes of surveys and reports on effectiveness of silviculture operations</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	4.3 Identify, plan and coordinate implementation of remedial treatments as required 4.4 Document outcomes of silviculture operations and report to appropriate personnel

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret complex written, technical information in source documents related to silviculture operations
Writing	<ul style="list-style-type: none"> Design, develop and revise strategic documents appropriate to audience and context
Oral communication	<ul style="list-style-type: none"> Use active listening and questioning techniques to convey and clarify information
Numeracy	<ul style="list-style-type: none"> Analyse and compare complex statistical information related to silviculture operations

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPFOM5007 Contribute to and implement a silviculture regime for a plantation	Not applicable	The unit has been created to address a skill or task required by industry that is not covered by an existing unit	Newly created

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPFOM5007 Contribute to and implement a silviculture regime for a plantation

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has participated in the design, coordination and monitoring of a silviculture regime for one plantation operation.

In performing this activity, the individual has:

- confirmed plantation management objectives and sourced pertinent information to identify the silviculture regime
- prepared prescriptions, established schedules and calculated costs for at least three plantation silviculture operations from the following:
 - site establishment
 - planting
 - spacing and thinning
 - tending and pruning
 - perennial and annual weeds controls
 - browsing controls
 - use of herbicides, pesticides and fertilisers
 - crop protection measures
 - harvesting
 - surveys for post-harvest monitoring
- confirmed contractual requirements for one plantation silviculture operation and monitored and reported on contractor compliance
- monitored effectiveness of one plantation silviculture operation and presented recommendations for future improvements.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- plantation management objectives:
 - social
 - economic
 - environmental
- types and characteristics of plantation silviculture regimes
- purpose of plantation silviculture regime:
 - production of wood and non-wood products
 - water yield
 - providing habitat for wildlife
 - carbon sequestration
- components of plantation silviculture regime:
 - management objectives
 - silviculture operations
 - monitoring and protection
- approaches to planning, implementing and monitoring plantation silviculture operations:
 - harvesting
 - site establishment
 - planting
 - spacing and thinning after establishment
 - pruning
 - stocking standards
 - browsing controls
 - managing pests and disease
 - crop protection measures – fire, wind
 - surveys for post-harvest monitoring
 - survival assessments
 - remedial treatments
- key elements of a prescription for plantation silviculture operations
- techniques for monitoring silviculture operations in plantations
- techniques for the design, implementation and analysis of outcomes of post-harvest surveys.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a plantation work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - a plantation

- computing hardware and software for planning, implementing and monitoring plantation silviculture operations
- stand data required for plantation silviculture operations
- specifications:
 - workplace policies and procedures regarding plantation silviculture operations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPFOM5008 Contribute to and implement a silviculture regime for native forest

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to select a silviculture regime consistent with native forest management objectives and contribute to the planning and implementation of the silviculture regime for native forest.

The unit applies to individuals who undertake forester or forestry field officer job roles in the forest industry.

All work must be carried out to comply with workplace procedures according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Forest Operations Management (FOM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Select silviculture regime consistent with native forest	1.1 Confirm native forest management objectives 1.2 Access sources of information required for making decisions on the choice of silviculture regime

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
management objectives	<p>1.3 Assess forest condition to help formulate silviculture practices consistent with forest management objectives</p> <p>1.4 Identify silviculture regime to achieve native forest management objectives</p>
2. Plan silviculture operations	<p>2.1 Plan harvest and regeneration prescriptions consistent with forest management objectives</p> <p>2.2 Plan seed collection, preparation and sowing to meet stocking standards and forest management objectives</p> <p>2.3 Define regeneration stocking standards and plan surveys for post-harvest monitoring</p> <p>2.4 Plan browsing controls consistent with forest management objectives</p> <p>2.5 Plan crop protection measures consistent with forest management objectives</p> <p>2.6 Establish schedule for silviculture activities according to workplace procedures</p> <p>2.7 Calculate cost of silviculture operations according to workplace procedures</p>
3. Coordinate implementation of silviculture operations	<p>3.1 Coordinate implementation of silviculture operations</p> <p>3.2 Monitor staff and contractor compliance with prescriptions for silviculture operations</p> <p>3.3 Identify and resolve incidents of non-compliances within scope of responsibility and workplace procedures</p> <p>3.4 Report on implementation of silviculture operations to appropriate personnel</p>
4. Monitor effectiveness of silviculture operations	<p>4.1 Establish monitoring procedures for assessing effectiveness of silviculture operations</p> <p>4.2 Analyse outcomes of surveys and reports on silviculture operations</p> <p>4.3 Identify, plan and coordinate implementation of remedial treatments as required</p> <p>4.4 Document outcomes of silviculture operations and report to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret complex written, technical information in source documents related to silviculture operations
Writing	<ul style="list-style-type: none"> Design, develop and revise strategic documents appropriate to audience and context
Oral communication	<ul style="list-style-type: none"> Use active listening and questioning techniques to convey and clarify information
Numeracy	<ul style="list-style-type: none"> Analyse and compare complex statistical information related to silviculture operations

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPFOM5008 Contribute to and implement a silviculture regime for native forest	Not applicable	The unit has been created to address a skill or task required by industry that is not covered by an existing unit	Newly created

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPFO5008 Contribute to and implement a silviculture regime for native forest

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has participated in the design, coordination and monitoring of a silviculture regime for one native forest stand.

In performing this activity, the individual has:

- confirmed native forest management objectives and sourced pertinent information to identify the silviculture regime
- prepared prescriptions, established schedules and calculated costs for at least three plantation silviculture operations from the following:
 - regeneration
 - harvesting
 - survey for post-harvest monitoring
 - seed collection, preparation and sawing for meeting regeneration stocking standards
 - browsing controls
 - crop protection
- confirmed contractual requirements for one native forest silviculture operation and monitored and reported on contractor compliance
- monitored effectiveness of one native forest silviculture operation and presented recommendations for future improvements.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- native forest management objectives:
 - social
 - economic

- environmental
- assessment of forest condition for selection of silviculture practices:
 - forest type
 - forest age structure
 - forest components and their condition
 - forest structure
 - wildlife habitat
 - forest generation
 - evidence of past disturbances (fire, logging) that may have influenced the growing stock condition
- types and characteristics of native forest silviculture regimes
- purpose of native forest silviculture regime:
 - support production of wood and non-wood products
 - water yield
 - creating ideal conditions for regeneration
 - providing habitat for wildlife
 - carbon sequestration
 - maintaining a diverse forest ecosystem
- components of silviculture regime:
 - management objectives
 - harvesting systems
 - regeneration treatment
 - monitoring and protection
- approaches to planning, implementing and monitoring native forest silviculture operations:
 - harvesting
 - thinning
 - regeneration
 - seed collection, preparation and sowing
 - stocking standards
 - surveys for post-harvest monitoring
 - browsing controls
 - crop protection measures – fire, wind
 - remedial treatments
- key elements of a prescription for forestry operations
- techniques for monitoring silviculture operations in native forests
- techniques for the design, implementation and analysis of outcomes of post-harvest surveys.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - a native forest stand
 - computing hardware and software for planning, implementing and monitoring silviculture operations
 - stand data required for silviculture operations
- specifications:
 - workplace policies and procedures regarding native forest silviculture operations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPFOM5009 Contribute to management and monitoring of forestry supply chains

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to contribute to the management and monitoring of forestry supply chains and to make recommendations for improving the efficiency of existing forestry supply chains.

The unit applies to individuals who undertake forester or forestry field officer job roles in the forest industry.

All work must be carried out to comply with workplace procedures according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Forest Operations Management (FOM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Map existing forestry supply chain arrangements	1.1 Identify the structure of existing forestry supply chains, including material flows, inventory management and end-to-end costs 1.2 Confirm responsibility for supply chain management within the

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>organisation</p> <p>1.3 Access technology hardware and software required for operation of supply chain management system</p> <p>1.4 Confirm workplace policies and procedures for guiding business relations and operations</p> <p>1.5 Confirm supply chain traceability arrangements, including chain of custody and chain of responsibility requirements</p> <p>1.6 Identify information requirements for each step of a forestry supply chain</p> <p>1.7 Confirm contractual obligations and key performance indicators for a forestry supply chain, including those related to cost, compliance and timeframes</p> <p>1.8 Assess responsibilities and support needs of staff, customers and suppliers engaged in supply chain operations</p>
2. Manage material flows through a forestry supply chain	<p>2.1 Manage achievement of supply chain objectives against key performance indicators</p> <p>2.2 Allocate supply chain tasks to self and other personnel</p> <p>2.3 Support personnel to achieve supply chain tasks and milestones</p> <p>2.4 Manage communication and information exchange with partners and suppliers</p> <p>2.5 Facilitate collaboration with supply chain organisations to determine demand at each level of supply chain</p> <p>2.6 Manage sales and payments in accordance with workplace procedures</p> <p>2.7 Implement actions within the organisation and supply chain partners to build trust and foster a supply chain culture</p> <p>2.8 Adjust policies and procedures to respond to the changing needs of suppliers, customers, regulators and the organisation</p> <p>2.9 Report on forestry supply chain operations to appropriate personnel</p>
3. Monitor a forestry supply chain	<p>3.1 Review key performance indicators for each step in a forestry supply chain</p> <p>3.2 Identify vulnerabilities and opportunities for improvements in a forestry supply chain</p> <p>3.3 Identify ways of improving the effectiveness of a forestry supply</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>chain through the implementation of monitoring activities</p> <p>3.4 Assess the impact of changes to variables, including customer orders, lead times, production volumes and transport availability, on a forestry supply chain</p> <p>3.5 Monitor compliance with legal, ethical, environmental, corporate social responsibility and sustainability requirements with a forestry supply chain in accordance with workplace procedures</p> <p>3.6 Identify potential remedial actions for correcting non-compliances and variances against key performance indicators</p>
4. Improve efficiency of a forestry supply chain	<p>4.1 Review the effectiveness of current relationships within a forestry supply chain</p> <p>4.2 Compare supply chain management models to determine most appropriate infrastructure to support a forestry supply chain</p> <p>4.3 Assess techniques to support the development of innovation in a forestry supply chain</p> <p>4.4 Analyse cost and time reduction activities for a forestry supply chain consistent with achieving organisational objectives</p> <p>4.5 Consolidate outcomes of review and analysis, and suggest improvements to forestry supply chain and seek feedback from appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret complex written information in a range of internal and external source documents to assist in the supply chain management process
Writing	<ul style="list-style-type: none"> Design, develop and revise strategic documents appropriate to audience and context
Oral communication	<ul style="list-style-type: none"> Use clear language and appropriate features to provide information to a variety of individuals Use active listening and questioning techniques to convey and

Skill	Description
	clarify information
Numeracy	<ul style="list-style-type: none"> Analyse and compare financial information to assist in managing, evaluating and improving the supply chain

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPFOM5009 Contribute to management and monitoring of forestry supply chains	Not applicable	The unit has been created to address a skill or task required by industry that is not covered by an existing unit	Newly created

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPFO5009 Contribute to management and monitoring of forestry supply chains

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has contributed to the management and monitoring of an established forestry supply chain for one forestry enterprise.

In performing this activity, the individual has:

- conducted an analysis of at least three supply chain characteristics chosen from the following and identified two areas for improvement:
 - commercial and customer relationships
 - distribution and purchasing channels
 - material flows
 - end-to-end costs
 - key performance indicators (KPIs)
 - operations and outcomes
 - compliance with legal, ethical, environmental, corporate social responsibility and sustainability requirements
 - forestry supply chain vulnerabilities
- supervised and assisted in the completion of tasks and milestones for one forestry supply chain operation during an operational cycle
- evaluated and identified at least one supply chain activity and/or model that may result in cost and time savings for the workplace and made recommendations for improvements.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- terminology used in forestry supply chain operations:
 - demand

- demand planning
- market segments
- channels
- production
- make to order
- make to stock
- supply
- order acceptance
- order fulfilment
- distribution
- objectives of inventory management:
 - maximise customer service
 - minimise inventory holding cost
 - maintain stock quality
 - maximise production efficiency
 - maximise transport efficiency
- communication strategies and channels used in forestry supply chains
- digital systems and applications used in a forestry supply chain
- forestry supply chain policies and procedures
- supplier capabilities and capacities
- forestry supply chain operations, including:
 - commercial agreements and contractual requirements
 - customer service levels
 - delivery timeframes
 - inventory flow and management
 - investment returns and cost controls
 - methods of pricing and payment terms
 - product sourcing
 - purchasing and distribution channels
 - quality control standards
 - value adds
 - stakeholder relationships
 - supply chain documentation
 - strategies that support continuous improvement activities
- forestry supply chain information requirements:
 - orders
 - production
 - inventory
 - procurement
 - transport capacity

- forestry supply chain traceability arrangements, including chain of custody and chain of responsibility requirements
- monitoring forestry supply chain:
 - commercial and customer relationships
 - distribution and purchasing channels
 - material flows
 - end-to-end costs
 - KPIs – production, procurement, transport, inventory management
 - operations and outcomes
 - compliance with legal, ethical, environmental, corporate social responsibility and sustainability requirements
 - forestry supply chain vulnerabilities.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - computing hardware and software required for operation of supply chain management system
 - comprehensive information about the operation of a forestry supply chain
- specifications:
 - workplace policies and procedures regarding forestry supply chain management and monitoring.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPFOM5010 Apply principles of forest science to optimise forest management practices

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to apply principles of forest science related to soil, water, landslide and nutrient management to optimise forest management practices.

The unit applies to individuals who undertake forester and forestry field officer job roles in the forest industry.

All work must be carried out to comply with workplace procedures according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Forest Operations Management (FOM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Assess forest soil quality	1.1 Identify the physical and chemical properties of major soil types 1.2 Identify the erodibility of different soil types 1.3 Access and interpret soil maps and online soil information services

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	to determine the soil type for a given location 1.4 Determine the soil profile and horizons for a given site 1.5 Apply procedures for testing soil nutrients 1.6 Interpret soil sample results in terms of the implications for forest management 1.7 Identify strategies for maintaining and improving soil quality on sites where forest management activities are practiced
2. Assess impact of forestry on landslide hazards	2.1 Recognise different types and causes of landslides and other forms of mass movement 2.2 Identify the effects of forest operations on the occurrence of landslides 2.3 Identify strategies for mitigating landslide hazards on sites where forest management activities are practiced
3. Assess impact of forestry on water quality and quantity	3.1 Assess the impact of forestry operations on water yield and water quality 3.2 Assess the cumulative effects of harvesting within catchments on water runoff and erosion 3.3 Classify streams according to erosion risk, and establish prescriptions for their protection 3.4 Identify ways of protecting drainage depressions in order to prevent movement of sediment, nutrients and chemicals into watercourses 3.5 Determine site rehabilitation/revegetation processes for at-risk riparian zones
4. Assess the impact of nutrient management on commercial forestry	4.1 Identify types and sources of elements essential to plant growth 4.2 Identify the effects of nutrient deficiencies and disorders on the management of commercial forestry 4.3 Explain the impact of fertiliser applications in commercial forestry 4.4 Determine nutrient management requirements for a forest stand according to workplace procedures 4.5 Develop a prescription that sets out fertilising requirements for a forest stand according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret complex written, technical information in source documents related to optimising forest management practices
Writing	<ul style="list-style-type: none"> Design, develop and revise strategic documents appropriate to audience and context
Oral communication	<ul style="list-style-type: none"> Use active listening and questioning techniques to convey and clarify information
Numeracy	<ul style="list-style-type: none"> Analyse and compare complex statistical information related to soil, water and nutrient management

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPFOM5010 Apply principles of forest science to optimise forest management practices	Not applicable	The unit has been created to address a skill or task required by industry that is not covered by an existing unit	Newly created

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPFO5010 Apply principles of forest science to optimise forest management practices

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has optimised at least one forest management practice through the use of forest science principles related to any of the following areas:

- soil quality and erosion control
- water quality and quantity
- landslide mitigation
- nutrient management.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- physical and chemical properties of major soil types
- erodibility of different soil types
- human and natural factors impacting on soil mass movement
- techniques for interpreting soil maps, including the soil classification system
- techniques for constructing soil profiles
- procedures for testing soil nutrients and interpreting soil sample results
- strategies for maintaining and improving soil quality on forestry sites:
 - limit the area of compacted soils
 - maintain favourable conditions for forest growth
 - retain and enhance carbon storage to support soil ecologic functions
 - limit impacts of roads and landings
- different types and causes of landslides and other forms of mass movement
- effects of forest operations on the occurrence of landslides
- strategies for mitigating landslide hazards on sites where forest management activities are practiced

- impact of forestry operations on water yield and water quality
- cumulative effects of harvesting within catchments on water runoff and erosion
- techniques for classifying streams according to erosion risk
- ways of protecting drainage depressions
- rehabilitation/revegetation processes for at-risk riparian zones
- types and sources of elements essential to plant growth
- effects of nutrient deficiencies and disorders on the management of commercial forestry
- impact of fertiliser applications in commercial forestry
- nutrient management requirements.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - a native forest or plantation stand
 - computing hardware and software for preparing reports and analysing data related to soil, water, landslide and nutrient management
 - stand data related to soil, water, landslide and nutrient management.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPFOM5011 Assist with calculating costs and production targets for forestry operations

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to source information and calculate costs and production targets for forestry operations.

The unit applies to individuals who undertake forester or forestry field officer job roles in the forest industry.

All work must be carried out to comply with workplace procedures according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Forest Operations Management (FOM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to calculate costs and production targets for a forestry operation	1.1 Determine production requirements of forestry operations in terms of quantity, quality, timelines and delivery of product 1.2 Assess production site, labour cost and availability, equipment requirements and other factors that may impact production

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.3 Assess logistic support contracts, supply agreements or equivalent that may impact production</p> <p>1.4 Assess legislative, regulatory and environmental requirements that may impact production</p> <p>1.5 Convert information gathered on forestry operation to usable form, and stored ready for retrieval and application according to workplace information management procedures</p>
2. Set production targets for a forestry operation	<p>2.1 Identify factors affecting production output of forestry operation</p> <p>2.2 Estimate time requirements for forestry operation, including lead times, according to workplace procedures</p> <p>2.3 Set production targets for a forestry operation according to workplace procedures</p> <p>2.4 Determine the impact of operational variables on proposed production targets according to workplace procedures</p> <p>2.5 Liaise with and seek support from senior personnel during preparation of draft production targets, as required</p> <p>2.6 Document draft production targets according to workplace procedures</p> <p>2.7 Verify draft production targets with appropriate personnel as required</p> <p>2.8 Document and store details of production targets for future reference according to workplace procedures</p>
3. Calculate the cost of a forestry operation	<p>3.1 Estimate labour, equipment and material requirements for proposed forestry operation</p> <p>3.2 Calculate total labour, equipment and material costs, including contingency, according to workplace procedures</p> <p>3.3 Identify components contributing to overhead costs</p> <p>3.4 Determine and calculate overhead costs to be attributed to forestry operation in accordance with workplace procedures</p> <p>3.5 Calculate total cost of forestry operation, including overheads, margins and allowance for profit, according to workplace procedures</p> <p>3.6 Apply procedures to calculate unit/daily rate from element costing according to workplace procedures</p> <p>3.7 Document details of costs according to workplace procedures</p> <p>3.8 Verify costs, calculations and other details with appropriate</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	personnel as required 3.9 Document and store details of cost of forestry operation for future reference enterprise information management procedures
4. Apply the contract costing method to a forestry operation	4.1 Calculate costs of forestry operations using the contract method 4.2 Compare the costs of forestry operations using this method with the unit cost model 4.3 Identify and report on implications of applying the contract cost model for a forestry operation
5. Compare calculations with actual cost and production data	5.1 Review calculated costs and production targets for forestry operation 5.2 Collate data on actual costs and production and compare with calculations 5.3 Identify and account for discrepancies between calculations and actual costs and production data 5.4 Report on comparison of calculations and actual costs and production data to appropriate personnel, noting potential implications for future setting of costs and production targets

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret complex written, technical information in source documents related to the costs and production targets for forestry operations
Writing	<ul style="list-style-type: none"> Design, develop and revise strategic documents appropriate to audience and context
Oral communication	<ul style="list-style-type: none"> Use active listening and questioning techniques to convey and clarify information
Numeracy	<ul style="list-style-type: none"> Calculate costs of forestry operations and compare actual and predicted costs

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPFOM5011 Assist with calculating costs and production targets for forestry operations	Not applicable	The unit has been created to address a skill or task required by industry that is not covered by an existing unit	Newly created

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPFOM5011 Assist with calculating costs and production targets for forestry operations

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has calculated the costs and set production targets for one forestry operation.

In undertaking this activity, the individual has:

- gathered and collated information required to calculate costs and set production targets for one forestry operation
- set production targets for the forestry operation and identified operational variables that may impact on the achievement of set targets
- identified fixed and variable costs of the forestry operation
- identified and assessed the impact of using different costing methods
- determined the total estimated cost of the forestry operation
- prepared written reports on the actual and estimated cost and production of the forestry operation.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- factors affecting production output of forestry operations:
 - site access and conditions
 - weather conditions
 - tree characteristics
 - environmental protection measures
 - equipment
 - labour
 - communications

- procedures for setting production targets for forestry operations
- operational variables that may impact on production targets
- components of labour costs
- overhead costs:
 - office and administration costs
 - business insurance
 - fees and charges
 - training costs
 - capital equipment
 - machinery
 - personnel transport
- contract cost method as applied to forestry operations
- fixed and variable costs of a forestry operation
- costing procedures for a forestry operation
- mathematical formulae and processes relevant to costing a forestry operation
- workplace approach to overhead costs, margins and allowances for profit
- workplace procedures for calculating unit/daily rate
- workplace information management processes, including storage requirements.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - computing hardware and software required for costing and setting production targets for forestry operations
 - data required for costing and setting production targets for forestry operations
- specifications:
 - workplace policies and procedures regarding costing and setting production targets for forestry operations
 - access to workplace environmental policies and procedures applicable to forestry operations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPFRM5001 Interpret and use image data in forestry planning and management

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency specifies the skills and knowledge required to select and interpret image data, including satellite images, aerial photographs, LiDAR images and other remotely sensed or scanned data used in forestry planning and management. The unit covers accessing image data, querying and interpreting image data from different sources, collating image data and archiving image data. The unit requires the ability to use geographic information system (GIS) software to access, manipulate, archive, retrieve and validate image data.

The unit applies to individuals who work as GIS officers, harvest managers, forestry planners, forestry supervisors and field foresters in a forest or plantation setting.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Forest Resource Management (FRM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Select image data for use in forestry planning and management	1.1 Identify and document image data requirements in consultation with appropriate persons 1.2 Retrieve image data from data storage and other sources according

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>to task and workplace requirements</p> <p>1.3 Assess image data for suitability to meet task requirements</p> <p>1.4 Transfer image data from the supplied format into format required to meet task requirements</p> <p>1.5 Identify and review image metadata for accuracy and completeness</p>
2. Interpret image data	<p>2.1 View image data using appropriate equipment and software application to complete task requirements</p> <p>2.2 Identify forest attributes and required forest management information from different forms of image data</p> <p>2.3 Verify integrity and relevance of image data using standard industry and workplace procedures</p> <p>2.4 Identify, resolve and document irregularities in image data according to workplace procedures</p>
3. Collate and store image data	<p>3.1 Collate image data according to workplace procedures</p> <p>3.2 Select appropriate format and database for image data according to workplace requirements</p> <p>3.3 Archive image data according to workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Read complex text in print and electronic format, including instructional manuals for GIS software packages
Writing	<ul style="list-style-type: none"> Use technical terms to describe forestry information extracted from image data
Oral communication	<ul style="list-style-type: none"> Ask questions to clarify instructions, feedback or information related to using and interpreting image data
Numeracy	<ul style="list-style-type: none"> Recognise metric units of measurement Perform routine mathematical calculations related to scale, area

Skill	Description
	and distance

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPFRM5001 Interpret and use image data in forestry planning and management	FWPFGM4209 Interpret and use aerial photographs for forest management	Update unit title Updated Application Updated Elements and Performance Criteria Updated Performance Evidence and Knowledge Evidence Updated Foundation Skills and Assessment Conditions	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPFRM5001 Interpret and use image data in forestry planning and management

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has selected and interpreted one satellite image, one aerial photograph and one LiDAR image in order to complete a workplace task related to a forestry planning or management issue.

In undertaking these activities, the individual has:

- accessed and validated different types of image data
- manipulated and interpreted image data
- identified forest attributes, such as vegetation characteristics and disease symptoms in trees and forest areas, using image data
- used GIS software
- reported and maintained information on details of forest attributes and topographic information
- archived and retrieved image data.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- types, uses and benefits and limitations of image data:
 - satellite images
 - aerial photographs
 - LiDAR images
 - other remotely sensed or scanned data
- sources of image data used in forestry planning and management
- principles of remote sensing
- principles of satellite remote sensing
- techniques for working with LiDAR data

- aerial photograph interpretation techniques
- common data transfer formats, including:
 - Australian Spatial Data Transfer Standard (SDTS)
 - Drawing Exchange Format (DXF) files
 - JPEG files
 - Vector Product Format (VPF) data
- forest types and structures and type of information, including:
 - area
 - height
 - species
 - crown cover
 - crown form
 - disturbance
 - aspects to be considered as part of the environmental management process
- applications of image data in forestry planning and management:
 - terrain analysis
 - forest management
 - recultivation
 - updating of existing forest inventories
 - forest cover type discrimination
 - the delineation of burned areas
 - identification of cleared areas
 - forest fire extent and damage
 - assessment of impact of natural events on forests
- procedures for collating image data
- procedures for archiving image data
- procedures for transferring image data from supplied format into format required for work task
- purpose and use of image metadata, including:
 - availability
 - conditions of use
 - coordinate system
 - currency
 - custodian
 - data accuracy
 - data description
 - date of acquisition
 - licence
 - quality
 - source

- spatial data acquisition methodologies
- version control
- techniques for operating, querying and browsing image databases
- geographic information system (GIS) software
- methods for assessing, verifying and validating image data and image data sources
- legal requirements for accessing, storing, retrieving and archiving image data, including data privacy and information copyright.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - image data, including satellite images, aerial photographs, LiDAR images and other remotely sensed or scanned data used in forestry planning and management
 - computer hardware required to run GIS software package
 - GIS software package
 - internet access
- specifications:
 - access to workplace policies and procedures applicable to operating computer software and hardware
 - access to manufacturer manual for computing equipment and technical instructions for use of GIS software package.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPFRM5002 Source information on the contribution of forestry to carbon reduction strategies

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to source and disseminate information on the contribution of forestry to carbon reduction and forest carbon stock measurement and monitoring.

The unit applies to individuals who are involved in carbon reduction activities in the forestry industry.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Forest Resource Management (FRM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Collate and disseminate information on forestry contribution to carbon	1.1 Source information on role of forests in carbon cycle and impact of climate change on tree physiology and forest ecosystems

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
reduction	<p>1.2 Research contribution of forests to climate change mitigation and how sustainable forestry practices support carbon reduction strategies, including carbon sequestration and emissions trading schemes</p> <p>1.3 Prepare and present information to professional and non-professional audiences on contribution of forestry to carbon reduction</p>
2. Collate and disseminate information on techniques for estimating forest carbon stock	<p>2.1 Source workplace policies and procedures and reference materials on estimating forest carbon stocks</p> <p>2.2 Gather information on methods for measuring and monitoring forest carbon stocks</p> <p>2.3 Research quality assurance and quality control procedures required to ensure reliability of measurements, data entry, data analysis and data archiving when conducting forest carbon inventory</p> <p>2.4 Review processes involved in interpreting sampling data and estimating carbon stocks from collected data</p> <p>2.5 Source information on processes involved in using growth models to predict biomass and carbon stocks and comparing predicted forest carbon stocks to current available data</p> <p>2.6 Prepare and present information to professional and operational personnel on estimating forest carbon stocks</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret complex technical information on different methods for estimating forest carbon stocks and changes in carbon stock
Writing	<ul style="list-style-type: none"> Prepare written information on complex technical matters for use by a range of professional and non-professional audiences
Oral communication	<ul style="list-style-type: none"> Apply effective communication skills to ask questions and seek clarification on complex and unfamiliar technical concepts related to the contribution of forestry to carbon reduction

Skill	Description
Numeracy	<ul style="list-style-type: none"> Collect, analyse and record complex statistical data related to sample site selection, sampling methods and interpretation of sampling data

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPFRM5002 Source information on the contribution of forestry to carbon reduction strategies	FWPFGM5219 Undertake carbon stock sampling of forest and plantations	New title Revised Application Statement to reflect change in scope of unit of competency Revised Elements and Performance Criteria Revised Performance Evidence and Knowledge Evidence Revised Assessment Conditions to reflect Standards for Training packages	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPFRM5002 Source information on the contribution of forestry to carbon reduction strategies

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has:

- researched and presented information on the contribution of forestry to carbon reduction to one professional and one operational audience
- researched and presented information on estimating forest carbon stock to one professional and one operational audience.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- the role of forests in the carbon cycle
- the impact of climate change on tree physiology and forest ecosystems
- the role of forests in climate change mitigation
- the key features and role of forestry in carbon reduction strategies:
 - carbon sequestration
 - emissions trading schemes
- key concepts used in estimating forest carbon stocks:
 - carbon pools
 - biomass
 - carbon stock
 - carbon fluxes
- types of carbon pools:
 - above ground biomass
 - below ground biomass
 - dead wood

- litter
- soil organic carbon
- methods for estimating forest carbon stocks and changes in carbon stock:
 - estimation by default factors
 - estimation by modelling
 - estimation by measurement
- techniques for measuring land areas
- sampling design and sampling methods for estimating carbon stocks
- techniques for conducting measurements in sampling plots
- quality assurance and quality control techniques used in forest carbon inventory
- statistical analysis techniques applicable to biomass and carbon assessments
- methods used to predict biomass growth and carbon stock growth, specifically the use of growth models.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - reference materials on carbon reduction strategies and estimating forest carbon stock
- specifications:
 - workplace policies and procedures on estimating forest carbon stock.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPFRM5003 Contribute to and implement a forest inventory program

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to contribute to the planning and management of forest assessments based on an inventory program.

The unit applies to individuals who contribute to the planning and management of forest assessments.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Forest Resource Management (FRM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan inventory program	1.1 Analyse requirements for an inventory program 1.2 Review site factors impacting on forest inventory program

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.3 Confirm timeline and budget for inventory program</p> <p>1.4 Review workplace plans to check impact on tree breeding operation</p> <p>1.5 Determine sampling techniques, methods of measurement and frequency of inventory assessment</p> <p>1.6 Consult with colleagues and stakeholders and obtain input to inventory program</p> <p>1.7 Liaise with and seek support from senior personnel during preparation of draft inventory program, as required</p> <p>1.8 Document draft inventory program according to workplace procedures</p> <p>1.9 Communicate draft inventory program and performance indicators to appropriate personnel and confirm further actions</p>
2. Implement inventory program	<p>2.1 Operationalise inventory program according to planned methods, schedule, budget and legislative requirements</p> <p>2.2 Coordinate required resources and authorisations</p> <p>2.3 Communicate schedule for inventory assessment to coordinating personnel</p> <p>2.4 Maintain documentation for all stages of inventory program</p>
3. Monitor inventory assessment	<p>3.1 Identify monitoring points and collect information and data</p> <p>3.2 Check inventory assessment for compliance with environmental, safety, workplace and legislative requirements</p> <p>3.3 Amend or revise inventory program and assessment processes to ensure specifications, quality and performance targets are met</p>
4. Review inventory assessment	<p>4.1 Review outcomes of inventory assessment against inventory program and workplace requirements</p> <p>4.2 Analyse information and data to determine effectiveness of inventory assessment and potential improvements to future inventory program</p> <p>4.3 Make recommendations for future inventory programs based on analysis of data and information</p> <p>4.4 Record and report on outcomes of inventory program to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret written regulatory and environmental information affecting forest inventory plans
Writing	<ul style="list-style-type: none"> Prepare complex written documents, including detailed approval applications for forest inventory plans
Oral communication	<ul style="list-style-type: none"> Use verbal and non-verbal communication and active listening skills to communicate with contractors and resolve issues associated with implementation of forest inventory plans
Numeracy	<ul style="list-style-type: none"> Perform calculations and conversions used in forest inventory assessment forest including wood volume and yield

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPFRM5003 Contribute to and implement a forest inventory program	FWPFGM5201 Plan and manage an inventory program	Redesigned unit that includes content from FWPFGM5201 Plan and manage an inventory program, and FWPFGM6203 Manage sustainable tree inventory	Not equivalent
FWPFRM5003 Contribute to and implement a forest inventory program	FWPFGM6203 Manage sustainable tree inventory	Redesigned unit that includes content from FWPFGM5201 Plan and manage an inventory program, and FWPFGM6203 Manage sustainable tree inventory	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPFRM5003 Contribute to and implement a forest inventory program

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, under the supervision of a senior forester, the individual has planned, implemented and assessed one forest inventory program.

In undertaking this activity, the individual has:

- followed workplace policies and procedures relevant to planning and managing an inventory program
- planned and implemented an inventory assessment process that involves:
 - calculating the current and expected wood volume and yield within a forest, or
 - establishing a monitoring process to enable reporting against marketing, strategic and business plans
- implemented an inventory program in line with documented plan and budget and making adjustments to plan or program
- selected sampling techniques and created sampling designs
- reviewed inventory program and used findings to document improvements to future assessments
- prepared and presented a detailed report, including costs, processes and analysis of findings of the program.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- requirements for an inventory program
- site factors impacting on forest inventory programs
- timeline and budget for inventory program
- sampling techniques, methods of measurement and frequency of inventory assessment
- stakeholder consultation techniques

- structure and format of inventory program and performance indicators
- resources and authorisations required for inventory programs
- monitoring processes for reporting against marketing, strategic and business plans
- monitoring procedures for compliance with environmental, safety, workplace and legislative requirements
- procedures for recording and reporting workplace information.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - computing hardware and software for documenting forest inventory program
 - reference materials for data, images, geographic and topographic information, maps and diagrams relating to inventory assessments
- specifications:
 - requirements for a forest inventory program
 - workplace standards, policies and procedures for forest inventory planning
 - workplace safety and environmental policies and procedures applicable to forestry operations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPFRM5004 Contribute to the planning and conduct of forest valuation

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to contribute to the selection and application of appropriate forest valuation methods to value forest stands.

The unit applies to individuals who undertake forester or forestry field officer job roles in the forest industry.

All work must be carried out to comply with workplace procedures according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Forest Resource Management (FRM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Recommend forest valuation method	1.1 Determine reasons for proposed forest valuation 1.2 Research legislative requirements, accounting standards set by the Australian Accounting Standards Board (AASB) and industry standards that apply to forest valuation in Australia

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.3 Research features, applications and data requirements of different forest valuation methods</p> <p>1.4 Establish criteria for selecting a forest valuation</p> <p>1.5 Apply selection criteria to recommend the appropriate forest valuation method</p> <p>1.6 Forward recommendation to appropriate personnel and confirm further actions</p>
2. Support forest valuation process	<p>2.1 Confirm and record data on ownership, boundaries, forest inventory, yield estimates and the characteristics and treatments that have been applied to the stand</p> <p>2.2 Conduct forest valuation in accordance with legislative requirements, AASB accounting standards and industry standards</p> <p>2.3 Liaise with and seek support from senior personnel during valuation process, as required</p> <p>2.4 Verify accuracy and reliability of collated data and seek additional information required to confirm valuation as required</p> <p>2.5 Analyse forest stand valuation methods, including quoted price in the market, transactions, present value, lump sum and cost based and select the most suitable for use</p> <p>2.6 Apply software program for valuing forest assets according to workplace procedures</p> <p>2.7 Select alternative valuation methods for forest estates or plantations with particular characteristics</p>
3. Document forest valuation	<p>3.1 Prepare draft valuation report using an agreed method, highlighting findings and rationale</p> <p>3.2 Forward draft valuation report to appropriate personnel and confirm further actions</p> <p>3.3 Maintain records and documentation according to workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret complex written, technical information in source documents related to forest valuation
Writing	<ul style="list-style-type: none"> Design, develop and revise strategic documents appropriate to audience and context
Oral communication	<ul style="list-style-type: none"> Use active listening and questioning techniques to convey and clarify information
Numeracy	<ul style="list-style-type: none"> Analyse and compare complex statistical information related to forest valuation

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPFRM5004 Contribute to the planning and conduct of forest valuation	Not applicable	The unit has been created to address a skill or task required by industry that is not covered by an existing unit	Newly created

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPFRM5004 Contribute to the planning and conduct of forest valuation

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, under the supervision of a senior forester, the individual has planned and conducted a valuation of one forest stand.

In undertaking this activity, the individual has:

- used one of the following valuation methods:
 - quoted price in the market
 - transactions method
 - present value method
 - lump sum method
 - cost based methods
- completed a draft valuation report highlighting findings and rationale.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- reasons for obtaining a forest valuation:
 - sale of forest
 - insurance
 - asset valuation for company accounts
 - land use comparisons
 - project evaluation
 - strategic planning equipment
- types, application and advantages and disadvantages of forest valuation methods:
 - quoted price in the market
 - transactions method

- present value method
- lump sum method
- cost based methods
- stand characteristics and treatments:
 - species
 - seed/genetic source
 - year of establishment or regeneration treatment
 - initial stocking
 - fertiliser and weedicide treatments
 - pruning
 - thinning
 - insect and disease attacks and treatments
 - growth, mortality and removals
- methods for valuing forest estates or plantations with particular characteristics:
 - valuing the highest and best use
 - immature forests
 - native forests
 - leased forests
 - joint venture and share farming forests
 - multiple use forests
- software programs for valuing forest assets.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - a forest stand to be valued
 - computing hardware and software for forest valuation
 - stand data for forest valuations
- specifications:
 - reference materials for coupes to be valued, including topographic maps, information on land use zonings, harvesting plans, and stand characteristics and treatments
 - access to legislative requirements, the accounting standards set by the Australian Accounting Standards Board (AASB) and industry standards that apply to forest valuation in Australia
 - workplace policies and procedures regarding forest valuation.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPFRM5005 Contribute to selection and application of forest growth models

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to select and apply a forest growth model to forecast forest growth and yield of a forest stand and to compare forecasts with actual yields.

The unit applies to individuals who undertake forester or forestry field officer job roles in the forest industry.

All work must be carried out to comply with workplace procedures according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Forest Resource Management (FRM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Select method of forecasting forest growth and yield	1.1 Classify stand characteristics that most affect forest growth and yield 1.2 Research different methods of forecasting forest growth and yield

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.3 Determine the key features and data requirements for different forest growth models</p> <p>1.4 Establish criteria for selecting a method of forecasting forest growth and yield</p> <p>1.5 Apply the selection criteria to determine the appropriate method for forecasting forest growth and yield for a stand</p>
2. Apply a forest growth model to forecast forest growth and yield	<p>2.1 Explain how growth models are used to compare results of different silvicultural regimes and scheduling pruning and thinning operations to forestry personnel</p> <p>2.2 Determine the data, including site index, species and genotype, age, establishment stocking, current stocking and basal area, required to simulate forest growth and forecast yield using a growth model</p> <p>2.3 Acknowledge the limitations of inventory data and the effects of inaccurate data from pre-harvest inventory on forecasts</p> <p>2.4 Use a simple stand volume formula to derive the total stand volume for a set of forecasts of basal area and mean top height</p> <p>2.5 Derive current annual increment and mean annual increment</p> <p>2.6 Use a stand growth model software package to simulate the growth and yield of a stand from establishment to clear felling</p>
3. Compare forecasts with actual harvest yields	<p>3.1 Review forecasted yield data for a forest stand</p> <p>3.2 Collate actual harvest yield data for a forest stand, and compare with forecast yield</p> <p>3.3 Document and account for discrepancies between actual and forecast harvest yield</p> <p>3.4 Report on comparison of forecast and actual harvest yield to appropriate personnel, noting potential implications for silviculture practices and forest growth modelling techniques</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret complex written, technical information in source documents related to forest growth models
Writing	<ul style="list-style-type: none"> Design, develop and revise strategic documents appropriate to audience and context
Oral communication	<ul style="list-style-type: none"> Use active listening and questioning techniques to convey and clarify information
Numeracy	<ul style="list-style-type: none"> Analyse and compare complex statistical information related to forest growth and yield

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPFRM5005 Contribute to selection and application of forest growth models	Not applicable	The unit has been created to address a skill or task required by industry that is not covered by an existing unit	Newly created

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPFRM5005 Contribute to selection and application of forest growth models

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has:

- simulated the growth and yield of one stand from establishment to clear felling using a stand growth model software package. In undertaking this activity, the individual has:
 - determined data requirements for simulation
 - selected a stand growth model software package
 - assessed quality of inventory data
 - applied software package to simulate stand growth and yield
 - compared and reported on forecast and actual yields.
- simulated the yield of one stand with a recorded silvicultural history and a current inventory data using a stand growth model. In undertaking this activity, the individual has:
 - determined data requirements
 - selected a stand growth model
 - assessed quality of recorded silvicultural history and current inventory data
 - applied model to simulate stand growth and yield
 - compared and reported on forecast and actual yields.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- distinguishing between growth and yield
- methods of forecasting growth and yield:
 - continuous forest inventories
 - permanent sample plots
 - replicated trials

- growth models
- types, features and data requirements of growth models:
 - stand-based models
 - individual tree models
 - diameter class models
- advantages and disadvantages of different forest growth models
- stand characteristics that affect growth and yield:
 - mix of species in a stand
 - stand age
 - site quality
 - density or stocking
 - competition
- stand growth terminology:
 - annual increment
 - mean annual increment
 - annual compound interest rate of growth
- growth model software packages
- inputs to a growth model software package and their limitations:
 - basal area increment factors
 - Weibull functions and breakage functions
 - taper and volume tables
 - site and regime variables
 - log cutting patterns
- formula for calculating forest growth and yield
- techniques for comparing forecasts with actual harvest yields.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - growth model software packages
 - computing hardware required for operation of growth model software packages
 - stand data to be inputted into growth model software package
- specifications:
 - workplace policies and procedures regarding forest growth modelling.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPFRM5006 Analyse ecology of commercial native forests and plantations

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to conduct biodiversity evaluations and monitor biodiversity management and conservation in forestry operations.

The unit applies to individuals who conduct and monitor biodiversity studies in native forest and plantation settings.

All work must be carried out to comply with workplace procedures according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Forest Resource Management (FRM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Research the impact of forestry operations on	1.1 Identify structure and composition of native forests and plantations 1.2 Explain ecological processes in native forests and plantations that

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
biodiversity	<p>contribute to biodiversity to forestry personnel</p> <p>1.3 Classify ecosystem services provided by commercial native forests and plantations</p> <p>1.4 Identify flora and fauna species of high conservation significance and their habitats and the ways these are managed in commercial native forests and plantations</p> <p>1.5 Explain the impact of forest management activities on biodiversity to forestry personnel</p>
2. Outline the regulatory framework applying to biodiversity management and conservation in forestry operations	<p>2.1 Confirm the international conventions, and relevant national, state and territory legislation, policies and agreements relating to biodiversity management and conservation that are relevant to commercial forestry operations</p> <p>2.2 Explain how the regulatory framework is addressed in the prescriptions for forest management activities to forestry personnel</p>
3. Conduct a biodiversity evaluation	<p>3.1 Select methods for evaluating biodiversity values in operational areas, including the use of ground survey techniques, planning tools and databases</p> <p>3.2 Select procedures for assessing habitat suitability for forest-dependant threatened or priority species in operational areas and developing appropriate management actions</p> <p>3.3 Select procedures for identifying and assessing vegetation communities</p> <p>3.4 Plan and implement a biodiversity evaluation</p> <p>3.5 Liaise with and seek support from senior personnel during planning and implementation of biodiversity evaluation, as required</p> <p>3.6 Analyse findings of the biodiversity evaluation, and suggest ways of improving biodiversity management and conservation</p> <p>3.7 Report outcomes of biodiversity evaluation and recommendations to appropriate personnel</p>
4. Monitor biodiversity management and conservation practices in forestry operations	<p>4.1 Select and implement methods for monitoring biodiversity management and conservation practices in forestry operations</p> <p>4.2 Gather and assess information on performance at key milestones or established review periods, and suggest ways for improving biodiversity management and conservation measures</p> <p>4.3 Report on outcomes of monitoring activities and recommendations</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	to appropriate personnel

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret complex written, technical information in source documents related to optimising biodiversity conservation and management
Writing	<ul style="list-style-type: none"> Design, develop and revise strategic documents appropriate to audience and context
Oral communication	<ul style="list-style-type: none"> Use active listening and questioning techniques to convey and clarify information
Numeracy	<ul style="list-style-type: none"> Analyse and compare complex statistical information related to biodiversity conservation and management

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPFRM5006 Analyse ecology of commercial native forests and plantations	Not applicable	The unit has been created to address a skill or task required by industry that is not covered by an existing unit	Newly created

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPFRM5006 Analyse ecology of commercial native forests and plantations

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has:

- conducted one biodiversity evaluation in either a native forest or a plantation. In undertaking this activity, the individual has:
 - applied knowledge of forest ecology, biodiversity and the impact of forestry practices on biodiversity
 - established objectives of biodiversity evaluation and its relationship with the regulatory framework
 - planned and implemented biodiversity evaluation according to workplace procedures
 - briefed forestry personnel on biodiversity evaluation
 - gathered, collated and analysed data
 - sought support from senior personnel during planning and implementation of biodiversity evaluation
 - analysed and reported findings of biodiversity evaluation to appropriate personnel
- monitored biodiversity management and conservation practices in one forestry operation in either a native forest or plantation. In undertaking this activity, the individual has:
 - applied knowledge of forest ecology and the impact of forestry practices on biodiversity
 - selected an appropriate method and identified personnel and resources required for monitoring biodiversity management and conservation practices in one forestry operation
 - briefed forestry personnel on the reasons and methods for monitoring biodiversity management and conservation practices in the selected forestry operation
 - gathered, collated and analysed data on forestry operation
 - reported outcomes of monitoring activities to appropriate personnel.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- structure and composition of native forests and plantations
- ecological processes:
 - succession
 - disturbance
 - predation
 - competition
 - climatic
 - hydrological
 - nutrient cycles
 - element cycling, such as carbon sequestration
- flora and fauna species of high conservation significance:
 - types
 - habitat
 - conservation and management strategies
- ecosystem services provided by commercial native forests and plantations:
 - provisioning – water provision, biomass for timber, biomass for firewood, honey, fodder
 - regulating – water flow regulation, soil retention, carbon sequestration and storage, pollination, habitat for species, air filtration, pest and disease control
 - cultural – recreation and tourism, social and community connection, cultural heritage connection, amenity, education and research
- impact of forest management activities on biodiversity:
 - establishment
 - harvesting
 - regeneration
 - road and track construction
 - silvicultural practices
 - haulage
- international conventions and national, state and territory legislation, policies and agreements relating to biodiversity management and conservation
- biodiversity evaluation:
 - methods for evaluating biodiversity values
 - ground survey techniques
 - planning tools and databases
 - procedures to assess habitat suitability for forest-dependant threatened or priority species
 - procedures for identifying and assessing vegetation communities

- procedures for planning and implementing a biodiversity evaluation
- procedures for monitoring biodiversity management and conservation practices in forestry operations.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - a native forest or plantation stand
 - computing hardware and software for preparing reports and analysing data related to biodiversity conservation and management
 - stand data related to biodiversity conservation and management
- specifications:
 - workplace policies and procedures related to the conduct of biodiversity evaluations
 - access to workplace policies and procedures that cover current Environment Protection Acts, regulations and related industry standards and codes of practice applicable to forestry operations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPFRM5007 Process and interpret harvester and forwarder optimisation data

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to use and apply a software program for processing harvesting and forwarding optimisation data, compatible with Standard for Forest Machine Data and Communication (StanForD), to monitor wood flow planning and production. This unit includes confirming wood flow planning and production data requirements, accessing StanForD compliant data, using software application features to process data and conduct production and wood flow analysis, and generating reports of production and wood flow across sites, machines and time.

The unit applies to individuals who work as foresters, harvesting managers, wood flow coordinators, value recovery coordinators, forestry planners and forestry contractors in a forest or plantation setting.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Forest Resource Management (FRM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for work	1.1 Confirm availability of computer hardware and software required

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>for task</p> <p>1.2 Check software, hardware and internet access for serviceability</p> <p>1.3 Confirm functionality of antivirus software and procedures</p>
2. Use software package to process StanForD compatible harvester and forwarder production data	<p>2.1 Open software from a laptop computer, personal computer or network terminal</p> <p>2.2 Use operator manual and online help function to locate details of software features and instructions for use</p> <p>2.3 Receive and transfer data files from email to software package</p> <p>2.4 Confirm wood flow planning and production data requirements according to work order or work instructions</p> <p>2.5 Access StanForD compliant data according to work requirements and software developer guidelines</p> <p>2.6 Use software application features to process data according to software developer guidelines and workplace requirements</p> <p>2.7 Perform routine checks to ensure accuracy of information according to quality requirements</p>
3. Produce and interpret reports of processed harvester and forwarder production data	<p>3.1 Select options for constructing data production and wood flow reports according to software developer guidelines and workplace procedures</p> <p>3.2 Generate reports of production and wood flow across sites, machines and time using features of software package</p> <p>3.3 Interpret reports of production and wood flow across sites, machines and time</p> <p>3.4 Reference data sources according to software developer guidelines and workplace procedures</p>
4. Maintain records	<p>4.1 Maintain archived data according to software developer guidelines and workplace standard procedures</p> <p>4.2 Maintain hard copy data according to software developer guidelines and workplace standard procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Read operating procedures, online help and/or software developer instructions
Writing	<ul style="list-style-type: none"> Enter routine text and technical terms production and wood flow planning reports
Oral communication	<ul style="list-style-type: none"> Ask questions to clarify data requirements and harvester header, production and wood flow information
Numeracy	<ul style="list-style-type: none"> Interpret numerical and graphical information related to production and wood flow planning

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPFRM5007 Process and interpret harvester and forwarder optimisation data	Not applicable	The unit has been created to address a skill or task required by industry that is not covered by an existing unit	Newly created

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPFRM5007 Process and interpret harvester and forwarder optimisation data

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has used a StanForD compatible software program to process harvesting and forwarding optimisation data for monitoring wood flow and production in a forestry or plantation setting.

In undertaking these activities, the individual has used the software program and relevant:

- harvester production files to produce six separate reports. Each report must be on one of the following aspects of harvester production:
 - comparison of wood flow production against planned production
 - monitoring harvested log volume by length and diameter classes or actual length and diameter
 - monitoring trees removed from a stand, including diameter distributions of stems harvested
 - comparison of harvester data against docket or target data
 - comparison of operator use of optimiser and manual over-ride
 - mapping of harvester Global Positioning System (GPS) falling location data to identify areas harvested within the forest to current date
- harvester calibration files to generate one report on calibration across harvesters within pre-determined limits
- forwarder production files to produce three separate reports. Each report must be on one of the following aspects of forwarder production:
 - monitoring forwarded logs by length and value
 - monitoring forwarded logs by weight
 - monitoring forwarded log by product type.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of

- Standard for Forest Machine Data and Communication (StanForD) data standards and file types
- machine types and their capability
- principles of value and value recovery in timber harvesting
- wood flow planning procedures
- uses of harvester and forwarder data:
 - improve value and volume recovery
 - production reporting and planning
 - monitor volumes of product length mix from areas being harvested
 - monitor production targets against production data (stem count by diameter at breast height class)
 - map and monitor area harvested in thinning and clear-fell operations
 - reduce production risks through fewer rejects
 - monitor machine calibration
 - monitor cutting strategies
 - monitor operator value recovery
- machine measurement accuracy and calibration and impact on data accuracy
- causes of harvester and docket or target data mismatch:
 - operators not correctly recording harvest data
 - missing bark function
 - different use of conversion factors
 - harvester calibration control checks
- basic GPS concepts
- software package for processing optimisation data:
 - procedures for inputting data and generating reports
 - terminology
- procedures for receiving and transferring data files, constructing reports and recording maintenance
- antivirus software procedures.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:

-
- computer software for analysing harvester and forwarder data
 - computer hardware
 - internet access
 - StanForD compliant data on harvesting operations
 - specifications:
 - workplace policies and procedures applicable to using computer software and hardware
 - production plan
 - workplace safe operating procedures for using computer software and hardware
 - user manual for computer software and hardware.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPFRM5008 Create digital forest operational map

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to create digital forest operational maps. This includes determining map specifications, selecting and setting up Geographic Information System (GIS) software package, creating, reviewing and finalising a map, and sharing the map with end-users.

The unit applies to individuals who work as GIS officers, harvest managers, forestry planners, forestry supervisors and field foresters in a forest or plantation setting.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Forest Resource Management (FRM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for work	1.1 Determine job requirements from work order or instruction, where required, seek clarification from appropriate personnel 1.2 Determine map specifications according to work order or instructions 1.3 Set up hardware, Geographic Information System (GIS) software package, internet access and equipment needed for the work, and

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	check for correct operation and safety according to manufacturer recommendations and workplace procedures
2. Create forest operational map	<p>2.1 Confirm format, extent, content, scale and intended use of map</p> <p>2.2 Select base map according to work requirements and software developer instructions</p> <p>2.3 Add layers to base map from the software package, web or files to show physical features and forestry-related information according to work requirements and software developer instructions</p> <p>2.4 Change styles in map according to work requirements and software developer instructions</p> <p>2.5 Configure pop-ups according to work requirements and software developer instructions</p> <p>2.6 Add item information to map, including description, terms of use, and attribution, according to workplace procedures and software developer instructions</p> <p>2.7 Display draft map according to display specifications and workplace requirements</p> <p>2.8 Proof draft map and fix any errors</p> <p>2.9 Save and store draft map according to software developer instructions and workplace procedures</p>
3. Review and share map	<p>3.1 Use software tools to share draft map with appropriate people for comment according to workplace procedures</p> <p>3.2 Review feedback to identify improvements and make agreed changes to map according to workplace procedures</p> <p>3.3 Save final version of map in appropriate format and share with intended users according to workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
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Skill	Description
Reading	<ul style="list-style-type: none"> Read complex text in print and electronic format, including instructional manuals for GIS software packages
Writing	<ul style="list-style-type: none"> Enter routine text and technical terms on forestry operational maps using GIS applications
Oral communication	<ul style="list-style-type: none"> Ask questions to clarify instructions, feedback or information
Numeracy	<ul style="list-style-type: none"> Recognise metric units of measurement Perform routine mathematical calculations related to using scale and calculating distances

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPFRM5008 Create digital forest operational map	Not applicable	The unit has been created to address a skill or task required by industry that is not covered by an existing unit	Newly created

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPFRM5008 Create digital forest operational map

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has used a Geographic Information System (GIS) software program to create and share three forestry operational maps according to a work order or work instructions.

In undertaking these activities, the individual has:

- confirmed format, extent, content, scale and intended use of map
- selected base map and added layers
- configured pop-ups and added item information to map
- proofed the draft map and fixed any errors
- saved and stored draft map
- shared draft map for review
- made changes to map based on feedback and workplace procedures
- saved and shared final version of map with intended users.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- range and functionality of GIS software packages
- basic GIS concepts:
 - sources and types of spatial data and projections
 - application areas
 - map features
 - map layers
- procedure to create digital maps:
 - choose base map

- select data
- add layers with relevant data
- change styles
- configure pop-ups
- save map
- proofread map
- share map
- georeferencing maps
- reasons and procedures for checking accuracy, integrity and completeness of data
- fundamental features of maps:
 - title
 - coordinates
 - scale
 - legend
 - data frame
 - orientation
 - citation
- forest operational maps:
 - purpose
 - intended users
 - format
 - information contained in forest operation maps
 - amendments
 - versions.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - computer hardware required to run GIS software package
 - GIS software package
 - internet access
- specifications:
 - work order or instruction detailing requirements for forestry operational map
 - workplace safety and environmental protection plans
 - workplace acceptable use policies for use of computing equipment

- manufacturer manual for computing equipment and technical instructions for use of GIS software package.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPFRM5009 Create cutting instruction files for forestry harvesters

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to create cutting instructions, which are also known as bucking instructions or APT files, for forestry harvesters. This unit includes sourcing and collecting data sets for use in creating cutting instructions, using a software package to create cutting instructions for forestry harvesters, trialling and editing cutting instructions and transmitting cutting instructions to end-users.

The unit applies to individuals who work as foresters, wood flow coordinators or value recovery coordinators in mechanised harvesting operations in a forest or plantation setting.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Forest Resource Management (FRM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for work	1.1 Confirm availability of computer hardware and software required to create cutting instruction files for forestry harvesters 1.2 Check software, hardware and internet access for serviceability

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	1.3 Confirm functionality of antivirus software and procedures
2. Source and collect data sets	2.1 Source data sets required for the creation of cutting instructions according to software developer specifications and workplace procedures 2.2 Confirm accuracy and format of data sets according to workplace procedures
3. Use software package to create cutting instruction files	3.1 Open software from a laptop computer, personal computer or network terminal and use menus and tools to find the option for creating new cutting instructions 3.2 Use operator manual and online help function to locate details of software features and instructions for use 3.3 Open cutting instructions template for the relevant harvester, and check the version type according to software developer instructions 3.4 Create, name and save new cutting instructions file according to software developer instructions and workplace procedures 3.5 Create value/product matrix according to software developer instructions and workplace procedures 3.6 Enter value and product information and product limitation data according to software developer instructions and workplace procedures 3.7 Enter site details, including site location, harvesting contractor and site crew, according to software developer instructions and workplace procedures 3.8 Save cutting instructions file according to software developer instructions and workplace procedures 3.9 Perform routine checks to ensure accuracy of data and data entry in accordance with workplace procedures
4. Trial and edit cutting instructions	4.1 Establish trial method, objectives and processes according to workplace procedures 4.2 Brief personnel involved in trial and evaluation of draft cutting instructions on their responsibilities and functions according to workplace procedures 4.3 Trial draft cutting instructions and capture and record results according to workplace procedures 4.4 Evaluate trial results and edit cutting instructions according to

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	outcomes of trial and workplace procedures
5. Transmit cutting instructions to end-users	5.1 Disseminate cutting instructions to end-users according to workplace procedures 5.2 Evaluate feedback on cutting instructions from users, respond to issues and problems consistent with own scope of responsibility, and record potential improvements to cutting instructions according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Read operating procedures, online help and/or software developer instructions
Writing	<ul style="list-style-type: none"> Use routine text and technical terms in production of documents and reports on trialling of cutting instructions
Oral communication	<ul style="list-style-type: none"> Ask questions to clarify data requirements and data accuracy
Numeracy	<ul style="list-style-type: none"> Interpret numerical and graphical information used in software program

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPFRM5009 Create cutting instruction files for forestry harvesters	Not applicable	The unit has been created to address a skill or task required by industry that is not covered by an existing unit	Newly created

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPFRM5009 Create cutting instruction files for forestry harvesters

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on two occasions, the individual has created two sets of cutting instructions.

In performing this work, undertaking this activity, the individual has:

- collected relevant data sets for the two sets of cutting instructions
- used a software program to create cutting instructions for a forestry harvester for:
 - one a single assortment of log product
 - one a multiple assortment of log products
- trialled both sets of cutting instructions
- evaluated trial results and edited cutting instructions according to outcomes of trial
- disseminated both sets of cutting instructions to relevant end-users
- evaluated feedback on cutting instructions from users, responded to issues and problems consistent with own scope of responsibility, and recorded potential improvements to cutting instructions.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- Standard for Forest Machine Data and Communication (StanForD) data standards, machine types and their capability
- data sets:
 - log specifications
 - product value
 - machine type
- product limitations:

- small end diameter (SED)
- large end diameter (LED)
- stem length
- overcuts
- principles of value and value recovery in timber harvesting
- StanForD harvester standards and files
- purpose of cutting instructions or bucking files (APT files)
- software used to create cutting instructions
- different approaches to bucking:
 - profit-based bucking
 - demand bucking
- sources of data sets required for creation of cutting instructions:
 - log specifications manual
 - company data on log pricing
 - company protocols for naming conventions
 - forest operation plan for site details
- methods for confirming accuracy and format of data required for creation of cutting instructions
- methods of opening cutting instructions template for the relevant harvester and checking the version type
- reasons for selecting correct cutting instructions template for harvester
- methods for naming and saving cutting instructions
- value/product matrix:
 - methods for creating
 - methods for entering data
- procedures for trialling and editing draft cutting instructions
- reasons for trialling cutting instructions
- reasons and procedures for using simulation software in trialling cutting lists
- procedures for transmitting cutting instructions to end-users
- terminology associated with software package
- file and record maintenance procedures
- antivirus software procedures.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a real or simulated forestry work environment forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:

- computer software for creating cutting instructions for harvester
- computer hardware
- internet access
- data sets required for creation of cutting instructions
- specifications:
 - workplace policies and procedures applicable to using computer software and hardware
 - production plan
 - workplace safe operating procedures for using computer software and hardware
 - user manual for computer software and hardware.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPFRM5010 Plan unmanned aerial vehicle (UAV) collection of forestry data

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to plan unmanned aerial vehicle (UAV) collection of forestry data. This includes preparing for UAV data collection, interpreting user requirements or specifications for spatial and environmental data collection, identifying the UAV platform and sensors required for the data collection task, and preparing a data collection plan.

The unit applies to individuals whose work involves planning UAV collection of forestry data in a forest or plantation setting.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Forest Resource Management (FRM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for UAV collection of forestry	1.1 Review work order, workplace health and safety, environmental protection and emergency procedures to determine job requirements

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
data	<p>and, where required, seek clarification from appropriate personnel</p> <p>1.2 Identify and report hazards according to workplace health and safety requirements to maintain safe work practices</p> <p>1.3 Consult with appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.4 Confirm that planned forestry data collection activities comply with legislative, regulatory and workplace requirements</p>
2. Plan UAV collection of forestry data	<p>2.1 Locate, read and interpret user requirements or specifications for spatial and environmental data collection</p> <p>2.2 Determine type and payload of UAV platform best suited to data collection task</p> <p>2.3 Determine type and specification of sensors required for forestry data collection task</p> <p>2.4 Determine ground control station (GCS) configuration according to manufacturer instructions and workplace procedures</p> <p>2.5 Identify appropriate file formats</p> <p>2.6 Establish time, frequency, location and optimal conditions for forestry data collection task</p> <p>2.7 Plan flight path that meets data collection, regulatory and safety requirements</p> <p>2.8 Implement protocols to ensure that forestry data collection activities meet privacy and data security regulations</p>
3. Optimise UAV collection of forestry data	<p>3.1 Identify and provide ways of overcoming potential delays and setbacks in UAV data collection</p> <p>3.2 Plan workflow for managing UAV forestry data collection according to workplace procedures</p> <p>3.3 Document forestry data collection plan according to workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> • Read complex text in print and electronic format
Writing	<ul style="list-style-type: none"> • Complete complex forms using routine and non-routine text
Oral communication	<ul style="list-style-type: none"> • Ask questions to clarify instructions, feedback or information
Numeracy	<ul style="list-style-type: none"> • Recognise metric units of measurement • Perform routine mathematical calculations related to time, speed, weight, volume and distance • Interpret graphical information related to time, speed, weight, volume and distance

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPFRM5010 Plan unmanned aerial vehicle (UAV) collection of forestry data	Not applicable	The unit has been created to address a skill or task required by industry that is not covered by an existing unit	Newly created

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPFRM5010 Plan unmanned aerial vehicle (UAV) collection of forestry data

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has planned and developed a written data collection plan for two different unmanned aerial vehicle (UAV) forestry data collection tasks.

In undertaking this activity, the individual has:

- reviewed work order, workplace health and safety, environmental protection and emergency procedures associated with work task
- selected type and payload of UAV platform best suited to data collection task
- planned UAV forestry data collection to comply with legislative, regulatory and workplace requirements
- identified contingency measures for minimising delays in UAV forestry data collection
- planned workflow for managing UAV forestry data collection
- prepared written forestry data collection plan.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- benefits of using UAVs in forestry related spatial and environmental data collection
- types of forestry data collected by UAVs:
 - plantation forestry
 - inventory management
 - tree height mapping
 - tree survival counts
 - identification and mapping of cutover areas
 - mapping of wind damage

- plantation health and disease
- communication of forest change
- post-planting stocking and survival
- weed mapping and classifying species
- analysis of regeneration
- monitoring fire and its impact
- quantifying gaps
- post-harvest waste assessment and soil displacement estimation
- types, designs, components and capabilities of UAVs:
 - fixed-wing
 - single-rotor
 - multi-rotor
 - hybrid systems
- UAV payloads:
 - active
 - passive
- types and capabilities of UAV sensors used in forestry:
 - LiDAR
 - multispectral
 - hyperspectral
 - RGB
- UAV ground control station (GCS):
 - basic GCS capabilities
 - peripheral components
 - support equipment
 - mission software tools
 - GCS configuration
- integration of unmanned aerial vehicle and sensors
- file formats
- procedures for workflow planning
- factors impacting on UAV data collection
- regulatory restrictions on UAV use and data collection
- types and ways of overcoming potential delays and setbacks in UAV data collection.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions

- resources, equipment and materials:
 - computer hardware and software
 - internet access
- specifications:
 - work order or instruction detailing requirements for forestry-related spatial and environmental data collection
 - workplace policies and procedures that cover current Work Health and Safety Acts or Occupation Health and Safety Acts, regulations and related industry standards and codes of practice applicable to UAV operations
 - workplace policies and procedures that cover current Environment Protection Acts, regulations and related industry standards and codes of practice applicable to UAV operations
 - workplace safety and environmental protection plans
 - user manual and technical instructions for UAV equipment and related software.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPFRM5011 Quality assure forestry data acquisition by unmanned aerial vehicle (UAV)

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to quality assure forestry data acquisition by unmanned aerial vehicle (UAV). This includes establishing quality criteria for UAV data acquisition, conducting pre-flight and post-flight quality assurance checks of UAV data acquisition and preparing a UAV data acquisition quality assurance report.

The unit applies to individuals whose work involves planning UAV collection of forestry data in a forest or plantation setting.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Forest Resource Management (FRM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Establish quality criteria for UAV forestry data acquisition	1.1 Confirm UAV forestry data acquisition workflow according to workplace and end-user requirements 1.2 Identify common problems in UAV forestry data acquisition 1.3 Confirm quality assurance checkpoints and associated quality

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	criteria for UAV data acquisition
2. Check UAV forestry data acquisition against quality criteria	<p>2.1 Confirm UAV forestry data collection requirements and proposed UAV data collection method</p> <p>2.2 Conduct pre-flight checks, including flight plan, sensor settings and ground control plan, before the flight, and rectify non-compliances according to workplace procedures</p> <p>2.3 Conduct post-flight quality assurance checks of UAV data acquisition, including standard data and UAV data specific checks, and identify measures to address non-compliances according to workplace procedures</p> <p>2.4 Produce initial compliance and quality assurance report on UAV forestry data, highlighting areas of non-compliance, required remedial actions, and arrangements for repeating quality assurance checks according to workplace procedures</p>
3. Prepare UAV forestry data acquisition quality assurance report	<p>3.1 Produce final compliance and quality assurance report to validate that UAV forestry data is accurate, reliable and fit for use according to workplace procedures</p> <p>3.2 Forward forestry data files for processing according to workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Read complex text in print and electronic format
Writing	<ul style="list-style-type: none"> Complete complex forms using routine and non-routine text
Oral communication	<ul style="list-style-type: none"> Ask questions to clarify instructions, feedback or information
Numeracy	<ul style="list-style-type: none"> Recognise metric units of measurement Perform routine mathematical calculations related to time, speed, orientation, weight and distance Interpret graphical information related to time, speed, orientation,

Skill	Description
	weight and distance

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPFRM5011 Quality assure forestry data acquisition by unmanned aerial vehicle (UAV)	Not applicable	The unit has been created to address a skill or task required by industry that is not covered by an existing unit	Newly created

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPFRM5011 Quality assure forestry data acquisition by unmanned aerial vehicle (UAV)

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has planned, conducted and reported on pre-flight and post-flight quality assurance checks of forestry data acquisition for three unmanned aerial vehicle (UAV) flights.

In undertaking this activity, the individual has:

- confirmed quality assurance checkpoints and associated quality criteria for UAV forestry data acquisition
- checked UAV forestry data acquisition against quality criteria
- produced final compliance and quality assurance report to validate that UAV forestry data is accurate, reliable and fit for use
- forwarded forestry data files for processing.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- problems associated with UAV data acquisition:
 - equipment and sensor
 - data
 - data collection
 - data management
- UAV project plan checks:
 - flight plan
 - sensor settings
 - ground control plan
- standard UAV data checks:

- delivery completeness and file corruption
- file naming, attributes and coordinate system
- form comparison
- classification statistics
- accuracy of control network
- UAV data specific checks:
 - imagery resolution and overlap
 - image quality
 - imagery-survey control alignment
 - point cloud quality assessment and vertical accuracy
 - DSM quality assessment and accuracy
 - existence of data
 - data extent and coverage
 - internal voids
- file formats
- compliance and quality assurance report:
 - format
 - procedures
- workflow for UAV data acquisition.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - computer hardware and software
 - internet access
 - UAV data
- specifications:
 - work order or instruction detailing requirements for planning, conducting and reporting on pre-flight and post-flight quality assurance checks of UAV data acquisition
 - workplace policies and procedures that cover current Work Health and Safety Acts or Occupation Health and Safety Acts, regulations and related industry standards and codes of practice applicable to UAV operations
 - workplace policies and procedures that cover current Environment Protection Acts, regulations and related industry standards and codes of practice applicable to UAV operations

- workplace safety and environmental protection plans
- user manual and technical instructions for UAV equipment and related software.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPHAR2201 Hook up felled trees (choker)

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to fasten choker cables around logs for yarding from the falling area to the landing, and to assist with other duties.

The unit applies to individuals who work as choker setters in cable logging operations in a forest or plantation harvesting environment.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards and codes of practice that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Harvesting and Haulage (HAR)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for choker setter operations	1.1 Determine job requirements and logs to be extracted from work order or instruction, where required, seek clarification from appropriate personnel 1.2 Confirm safety and environmental protection requirements for the

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>task according to workplace procedures</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with hooking up felled trees in a cable logging operation</p> <p>1.4 Plan choker setter and cable operations activities according to work order or instructions</p> <p>1.5 Consult with team members and other appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.6 Select, fit and use personal protective equipment</p> <p>1.7 Obtain tools and equipment needed for the work, and check for correct operation and safety</p>
2. Hook up logs	<p>2.1 Identify audible or visual signal system to be used</p> <p>2.2 Select specific logs for next return prior to return of rigging according to planned operations</p> <p>2.3 Assess position of logs to be extracted according to haul line, hook up point and likely movement</p> <p>2.4 Monitor stability of logs to be extracted, and take precautions against movement according to logging code of practice</p> <p>2.5 Direct and control positioning of rigging using signals to facilitate planned hook ups</p> <p>2.6 Pull out slack for chokers to allow safe hook-up</p> <p>2.7 Set chokers according to workplace requirements</p> <p>2.8 Give haul signals, according to code of practice, when all persons are clear from logs, out of bight of ropes and are in a safe area</p> <p>2.9 Monitor log movement and stop for corrective action when difficulties occur</p> <p>2.10 Report hook-up safety and equipment faults to rigging slinger</p>
3. Assist with line shifts	<p>3.1 Clear all logs to be hauled with existing line position before line shift is initiated</p> <p>3.2 Assist with notching of stumps according to industry code and site requirements and rigging method to be used</p> <p>3.3 Pull slack on all lines prior to release of existing rigging</p> <p>3.4 Assist with dismantling of rigging components on existing line, check and set up on new line as required</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret workplace documentation and signage to determine requirements
Writing	<ul style="list-style-type: none"> Use technical and workplace specific vocabulary to accurately and legibly complete workplace records and forms
Oral communication	<ul style="list-style-type: none"> Ask questions to clarify contents of work order or instruction
Numeracy	<ul style="list-style-type: none"> Use calculation methods to estimate distances

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPHAR2201 Hook up felled trees (choker)	FWPHAR2203 Hook up felled logs using cables (choker)	Title amended Minor update to Application, Elements and Knowledge Evidence Added new Performance Criteria Updated Foundation Skills, Performance Evidence and Assessment Conditions	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPHAR2201 Hook up felled trees (choker)

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has:

- planned and hooked up four turns of felled logs following workplace policies and procedures and related industry codes of practice for log recovery operations
- assisted in shifting lines according to instructions.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- content and application of applicable state or territory code of practice relevant to log recovery activities
- environmental protection practices for forest and plantation operations:
 - safe disposal of waste material
 - cleaning of tools and equipment
- key features of varying site conditions, hazards and their effects on log recovery
- characteristics of trees and logs that can impact on hooking up felled logs with cables
- techniques used by choker setters in the log recovery process
- types and key features of signal systems used for log recovery activities:
 - tooter signals
 - two-way radio
 - visual signals
- industry codes of practice for communication of log extraction signals
- purpose, features, rigging components and operation of cable logging system
- workplace procedures specific to log recovery activities:

- workplace health and safety with particular emphasis on equipment lock-out, use of personal protective equipment (PPE), safe manual handling and fire prevention measures
- communication reporting lines
- reporting hook-up safety and equipment faults.

Assessment Conditions

Assessment of the skills in this unit of company must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated on a working cable logging operation
- resources, equipment and materials:
 - active cable logging system
 - PPE required in cable logging operations
- specifications:
 - access to workplace safety and environmental protection policies and procedures applicable to log recovery and cable logging activities
 - access to workplace standard operating procedures or operator manual for cable logging equipment.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPHAR2202 Perform landing duties (chaser)

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to direct the placement of logs brought to the landing by cable operations and unhook the logs from chokers.

The unit applies to individuals who work as chaser operators in cable logging operations in a forest or plantation harvesting environment.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation, standards and codes of practice that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Harvesting and Haulage (HAR)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for chaser operations	1.1 Determine job requirements from work order or instruction and, where required, seek clarification from appropriate personnel 1.2 Confirm safety and environmental protection requirements for the job according to workplace procedures

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with chaser activities in a cable logging operation</p> <p>1.4 Plan chaser activities according to work order or instructions</p> <p>1.5 Consult with team members and other appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.6 Select, fit and use personal protective equipment</p> <p>1.7 Obtain tools and equipment needed for the work, and check for correct operation and safety</p>
2. Land and unhook logs	<p>2.1 Identify audible or visual signal system to be used</p> <p>2.2 Monitor the safety of turns entering landing area, and assist yarder to place them using signals according to cable logging code of practice</p> <p>2.3 Check that logs have at least two-thirds of their weight on the landing before release</p> <p>2.4 Check stability of logs and unhook when rigging is slackened</p> <p>2.5 Assist with installation, removal, adjustment and checking of rigging as required</p> <p>2.6 Record and report chaser safety and equipment faults to appropriate personnel</p> <p>2.7 Assist with line shifts under direction of appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret workplace documentation and signage to determine requirements
Writing	<ul style="list-style-type: none"> Use technical and workplace specific vocabulary to accurately and legibly complete workplace records and forms
Oral communication	<ul style="list-style-type: none"> Ask questions to clarify contents of work order or instruction

Skill	Description
Numeracy	<ul style="list-style-type: none"> Use methods to measure, calculate and estimate distances

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPHAR2202 Perform landing duties (chaser)	FWPHAR2204 Perform landing duties (chaser)	Minor updates to Application, Performance Criteria and Knowledge Evidence Added new Performance Criteria Merged two Elements Updated Foundation Skills, Performance Evidence and Assessment Conditions	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPHAR2202 Perform landing duties (chaser)

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has:

- planned and unhooked four turns, with at least one of these turns containing multiple logs, following workplace policies and procedures and related industry codes of practice for log recovery operations
- assisted in shifting lines according to instructions.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- content and application of applicable state or territory code of practice relevant to log recovery activities
- environmental protection practices for forest and plantation operations:
 - safe disposal of waste material
- key features of varying site conditions, hazards and their effects on log recovery
- characteristics of trees and logs that affect chaser operations in a harvesting environment
- techniques used by chasers to unhook logs at the landing site
- key features of signal systems used for log recovery activities:
 - tooter signals
 - two-way radio
 - visual signals
- industry codes of practice for communication of log extraction signals
- workplace procedures specific to log recovery activities, including:
 - workplace health and safety with particular emphasis on equipment lock-out, use of personal protective equipment (PPE), safe manual handling and fire prevention measures

- communication reporting lines
- reporting chaser safety and equipment faults.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated on a working cable logging operation
- resources, equipment and materials:
 - active cable logging system
 - PPE required in cable logging operations
- specifications:
 - access to workplace safety and environmental protection policies and procedures applicable to log recovery and cable logging activities
 - access to workplace standard operating procedures or operator manual for cable logging equipment.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPHAR2208 Operate a mobile chipper/mulcher

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to operate a hand-fed or machine-fed mobile chipping or mulching unit to chip or mulch timber refuse such as branches and other timber waste.

The unit applies to individuals who operate mobile chippers/mulchers as part of arboriculture, forestry, agriculture, conservation and land management, local government, emergency services and other government agency operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Harvesting and Haulage (HAR)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for chipping or mulching	1.1 Determine job requirements from work order or instruction and, where required, seek clarification from appropriate personnel 1.2 Confirm safety and environmental protection requirements for the

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>task according to workplace procedures</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with operating mobile chippers/mulchers</p> <p>1.4 Identify type and quantity of material to be chipped or mulched</p> <p>1.5 Plan chipping/mulching activities according to work order or instruction and environmental conditions</p> <p>1.6 Consult and maintain communication with team members and other appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.7 Select, fit and use personal protective equipment</p> <p>1.8 Obtain tools and equipment needed for the work, and check for correct operation and safety</p>
2. Chip or mulch material	<p>2.1 Reject material assessed as unsuitable for chipping or mulching, and dispose of or recycle according to workplace and environmental protection practices</p> <p>2.2 Use equipment according to workplace safety procedures, manufacturer instructions and environmental protection requirements</p> <p>2.3 Position, secure and set up chipping and mulching unit according to manufacturer specifications and required size</p> <p>2.4 Direct material into chipper or mulcher at rate applicable to machine capacity using safe methods for loading and feeding</p> <p>2.5 Respond to critical situations requiring emergency shutdown to prevent personal injury or damage to machine or product</p> <p>2.6 Direct chipped or mulched material onto stock pile or transport vehicle if required</p>
3. Complete operator maintenance	<p>3.1 Follow workplace safety procedures and manufacturer instructions to lock out equipment</p> <p>3.2 Complete operational safety checks according to manufacturer recommendations</p> <p>3.3 Check cutters for wear and damage as required or at intervals recommended by manufacturer</p> <p>3.4 Check and replenish fuel and lubricants according to manufacturer recommendations</p> <p>3.5 Clean and store chipper/mulcher</p> <p>3.6 Record and report production outcomes and equipment faults to</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	appropriate personnel

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret workplace documentation to determine requirements
Writing	<ul style="list-style-type: none"> Use technical and workplace specific vocabulary to accurately and legibly complete workplace records and forms
Oral communication	<ul style="list-style-type: none"> Ask questions and actively listen to clarify contents of work orders
Numeracy	<ul style="list-style-type: none"> Identify quantities of required material within work orders Interpret basic numerical machine settings, and choose according to chip size Complete routine production records involving quantities tallied against orders

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPHAR2208 Operate a mobile chipper/mulcher	FWPHAR2206 Operate a mobile chipper/mulcher	Clarified Application Updated and added new Performance Criteria Re-titled Element Added new knowledge items Updated Foundation Skills, Performance Evidence and Assessment	Equivalent

Code and title current version	Code and title previous version	Comments	Equivalence status
		Conditions	

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPHAR2208 Operate a mobile chipper/mulcher

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has:

- assessed, planned and conducted the chipping or mulching of two different species of material
- followed workplace policy and procedures and current workplace health and safety legislation, regulations and related industry standards and codes of practice applicable to wood chipping or mulching operations
- inspected and carried out routine operator maintenance on one mobile chipper/mulcher on one occasion according to manufacturer requirements.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- environmental protection practices related to wood chipping or mulching operations:
 - energy use
 - cleaning plant, tools and equipment
 - disposing of, recycling and reusing waste products
- types of material suitable and unsuitable for chipping and mulching
- types, purpose, features and operation of mobile chipping and mulching units
- capacity of chippers and mulchers to cope with differing sizes and diameters of branch
- feed rates at which material is fed into chippers and mulchers to optimise output without damaging or blocking machinery
- feeding techniques to minimise operator exposure to injury
- techniques for loading chipped/mulched material into truck or transport vehicle
- criteria and methods for checking cutting blade condition

- operator maintenance procedures for fuelling, safety checks, cleaning, lubricating, operational adjustments and cutter inspection for wear or damage, replacement and disposal
- common hazards associated with chipping and mulching operations and methods to minimise associated risks
- workplace procedures specific to chipping and mulching:
 - workplace health and safety, with particular emphasis on equipment lock-out, use of personal protective equipment (PPE) and safe manual handling
 - communication reporting lines
 - recording and reporting production outcomes and equipment faults.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - competency is to be assessed in the workplace or a simulated environment that accurately reflects performance in a real workplace setting
- resources, equipment and materials:
 - mobile chipper or mulcher
 - truck or transport vehicle suitable for transporting chipped/mulched material if required by site requirements
 - material to chip or mulch
 - PPE required in chipping and mulching operations
 - communication system
- specifications:
 - access to workplace safety and environmental protection policies and procedures applicable to chipping or mulching operations
 - access to workplace standard operating procedures or operator manual for mobile chippers or mulchers.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPHAR2209 Trim and cut harvested trees

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the outcomes required to trim and cut harvested (felled) trees with a chainsaw for commercial production and complete operator maintenance.

The unit applies to individuals who trim and cut felled trees as part of commercial forestry operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation, standards and industry codes of practice that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Harvesting and Haulage (HAR)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for trimming and cutting felled trees	1.1 Determine job requirements from work order or instruction and, where required, seek clarification from appropriate personnel 1.2 Confirm safety and environmental protection requirements for the task according to workplace procedures

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with trimming and cutting felled trees</p> <p>1.4 Plan trimming and cutting activities according to work order or instruction, harvesting and site plans and environmental conditions</p> <p>1.5 Consult and maintain communication with team members and other appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.6 Select, fit and use personal protective equipment</p> <p>1.7 Obtain tools and equipment needed for the work, and check for correct operation and safety</p>
2. Assess felled trees visually	<p>2.1 Inspect site for conditions likely to affect safe implementation of trimming and cutting activities</p> <p>2.2 Assess felled trees visually to identify defects, grades and recovery status</p> <p>2.3 Assess felled trees for extraction</p> <p>2.4 Mark felled trees too dangerous to cut safely, and refer to appropriate personnel</p>
3. Plan cutting felled trees	<p>3.1 Move or stabilise felled tree for safe cutting according to workplace procedures</p> <p>3.2 Select cutting pattern to optimise time, volume recovery and quality</p> <p>3.3 Plan cutting sequence to maintain control of cut sections and minimise cutting problems</p> <p>3.4 Select, measure and mark cutting positions according to workplace procedures and industry standard lengths</p> <p>3.5 Clear debris from work area to allow safe access and prevent saw damage and personal injury</p>
4. Use chainsaw to trim and cut felled trees	<p>4.1 Monitor location and movement of other personnel, and modify work to ensure safety</p> <p>4.2 Operate saw to cut felled tree and adjust cutting technique in response to movement and condition of felled tree</p> <p>4.3 Complete cut once started and minimise capping and splitting</p> <p>4.4 Apply retrieval techniques for stuck, pinched or jammed part of chainsaws</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	4.5 Square cut butts, trim accessible branches, bumps and burls and remove head of felled tree
5. Complete operator maintenance	5.1 Inspect equipment on completion of trimming and cutting activities 5.2 Follow workplace safety procedures to lock out equipment 5.3 Check chain for bluntness or damage 5.4 Remove, sharpen, adjust or replace chain and other components according to manufacturer recommendations and workplace procedures 5.5 Report production outcomes, equipment faults and maintenance requirements to appropriate personnel

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret workplace documentation to determine work requirements
Writing	<ul style="list-style-type: none"> Use technical and workplace specific vocabulary to accurately and legibly complete workplace records and forms
Oral communication	<ul style="list-style-type: none"> Ask questions and actively listen to clarify contents of work plans
Numeracy	<ul style="list-style-type: none"> Complete routine calculations and report on size, length and diameter of cut felled trees

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPHAR2209 Trim and cut harvested	FWPHAR2207 Trim and cut harvested	Minor updates to Application and	Equivalent

Code and title current version	Code and title previous version	Comments	Equivalence status
trees	trees	Knowledge Evidence Re-titled Element Added new Performance Criteria Updated Foundation Skills, Performance Evidence and Assessment Conditions	

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWP HAR2209 Trim and cut harvested trees

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has assessed, planned and conducted the trimming and cutting of six felled trees using a chainsaw to optimise time, volume recovery and quality.

In performing this work, there must be evidence that the individual:

- demonstrated three or more cut types from the list below:
 - bridging cuts
 - swinging cuts
 - side bind cuts
 - boring cuts
 - wedge cuts
 - ripping cuts
 - step cuts
- followed workplace policy and procedures, current workplace health and safety legislation, regulations and related industry standards and codes of practice applicable to cutting felled tree operations
- checked and sharpened or changed a saw chain on one occasion according to manufacturer instructions.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- chainsaw cutting techniques used to trim and cut felled trees:
 - bridging cut
 - swinging cut
 - side bind cut

- boring cut
- wedge cut
- ripping cut
- step cut
- felled tree stresses and how they affect tree cutting activities:
 - tension (fibres being stretched)
 - compression (fibres being squashed)
 - neutral fibres
- optimisation in trimming and cutting operations:
 - time
 - value recovery
 - manageable removal of logs
- cutting patterns used to optimise time and recovery of product from felled trees
- cutting sequences used to maintain control of cut sections and minimise cutting problems
- hazards and risks associated with site conditions and effects on chainsaw operations
- methods to identify and explain how timber defects may affect the chainsaw operation
- industry standards:
 - lengths and tolerances and applicable terminology
 - grades for log and applicable terminology
- methods for assessing chain condition
- workplace policies and procedures specific to tree trimming and cutting activities:
 - workplace health and safety, with particular emphasis on equipment lock-out, use of personal protective equipment (PPE) and safe manual handling
 - communication reporting lines
 - recording and reporting production outcomes, equipment faults and maintenance requirements
 - codes of practice
 - harvest plans
- environmental protection practices for harvesting operations:
 - soil and water protection
 - cleaning plant, tools and equipment
 - disposing of, recycling and reusing timber and other waste.

Assessment Conditions

Assessment of the skills for this unit of competency must take place under the following conditions:

- physical conditions:
 - competency is to be assessed in a commercial forest operation or a simulated environment that accurately reflects performance in a real workplace setting
- resources, equipment and materials:

- chainsaw and accessories
- suitable felled trees to trim and cut
- PPE required in trimming and cutting felled trees
- communication system
- specifications:
 - access to work order or instruction detailing cutting and trimming operations to be carried out by chainsaw operator
 - access to workplace safety and environmental protecting policies and procedures applicable to trimming and cutting operations and chainsaw use
 - access to workplace standard operating procedures or operator manual for chainsaws.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPHAR2210 Operate a forest machine simulator in a virtual environment

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to use a forestry machine simulator in a virtual forest environment for practicing work methods before learning to operate real equipment.

This unit does not provide technical skills and knowledge that enable a person to operate a forestry machine in the workplace, but rather provides foundation skills in forestry machine operations.

This unit does not include the use of on-board computing functions.

The unit applies to entry level workers who intend to pursue further training and work as forest machine operators in a forest or plantation setting.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Harvesting and Haulage (HAR)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to operate a	1.1 Review simulator activity requirements and, where required, seek

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
forest machine simulator	clarification from simulator supervisor 1.2 Complete operator log-in
2. Conduct pre-operational service and safety checks on a forest machine simulator	2.1 Assess personal, machine and site hazards in virtual forest work site and need for personal protective equipment and effective communication procedures in real life work sites 2.2 Complete virtual walk-round and inspection of forest machine to identify forest machine components, service points and faults 2.3 Confirm setup for base machine in virtual forest environment to meet activity requirements
3. Operate a forest machine simulator	3.1 Identify forest machine simulator controls and functions 3.2 Select and use simulator controls to drive forest machine, including gear selection, steering, acceleration and reversing 3.3 Use simulator controls to demonstrate basic machine crane functions according to simulator activity requirements 3.4 Demonstrate use of forest machine attachments and functions in virtual forest environment as required 3.5 Optimise position of forest machine in virtual forest environment and select the correct angle and alignment of boom and attachments during simulated operation 3.6 Respond to variation in production targets, tree type, slope and terrain characteristics during simulation 3.7 Respond to on-screen and instructor advice and take corrective actions as required
4. Review personal use of a forest machine simulator	4.1 Review personal performance data on operation of forest machine simulator 4.2 Participate in debriefing on operation of forest machine simulator with simulator supervisor

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Oral communication	<ul style="list-style-type: none"> Use appropriate vocabulary, including technical language directly relevant to role
Numeracy	<ul style="list-style-type: none"> Recognise and respond to basic symbols, numerical and graphical information shown on forest machine simulator displays

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPHAR2210 Operate a forest machine simulator in a virtual environment	Not applicable	The unit has been created to address a skill or task required by industry that is not covered by an existing unit	Newly created

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPHAR2210 Operate a forest machine simulator in a virtual environment

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has used a simulator to demonstrate the operation of one type of forest machine in four different harvesting scenarios consistent with workplace conditions.

In undertaking this activity, the individual has:

- reviewed simulator activity requirements
- completed operator log-in
- identified forest machine simulator controls and functions
- selected and used simulator controls to drive forest machine and perform basic machine crane functions
- optimised position of forest machine in the virtual forest environment and selected correct angle and alignment of boom and attachments during simulated operation
- responded to variation in production targets, tree type, slope and terrain characteristics during simulation
- responded to on-screen and instructor advice and take corrective actions as required
- reviewed personal performance data on operation of forest machine simulator.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- types, uses, capacity of forest machines
- pre-operational checks for forest machines, including service points
- basic components of forest machines
- forest machine hand controls and functions
- operator techniques for safe and efficient operations of forest machines
- basic machine alignment and boom geometry

- basic terminology related to forest machine operations
- basic effects of slope, weather and terrain conditions on forest machine stability and operation
- basic work site and communication requirements
- hazardous or safe working zones in forest machine operations
- health and operational hazards or risks related to forest machine operations
- personal protective equipment required in forest machine operations.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a simulated environment that represents forest machine operations consistent with workplace conditions
- resources, equipment and materials:
 - forest machine simulator.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPHAR3202 Monitor log recovery (rigging slinger)

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to plan for and navigate the extraction or breakout of logs to the landing in a forest or plantation operation. The unit includes directing choker setters, transmitting signals to the yarder operator and assisting with line shifts for cable logging operations.

The unit applies to individuals who work as a rigging slinger operator in cable logging operations in a forest or plantation harvesting environment.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation, standards and codes of practice that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication

Pre-requisite Unit

Nil

Unit Sector

Harvesting and Haulage (HAR)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for rigging slinger operations	1.1 Determine job requirements and type and quality of logs to be extracted from work order or instruction and, where required, seek clarification from appropriate personnel

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.2 Confirm safety and environmental protection requirements for the task according to workplace procedures</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with rigging slinger activities in a cable logging operation</p> <p>1.4 Plan rigger slinger activities according to work order or instructions</p> <p>1.5 Consult with team members and other appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.6 Select, fit and use personal protective equipment</p> <p>1.7 Obtain tools and equipment needed for the work, and check for correct operation and safety</p>
2. Plan breakout	<p>2.1 Plan and complete breakout operations according to environmental conditions, health and safety procedures and site procedures</p> <p>2.2 Identify audible or visual signal system to be used</p> <p>2.3 Identify obstacles to extraction operations, and develop avoidance plan</p> <p>2.4 Identify logs to be recovered with current and future haul lines</p> <p>2.5 Assess information to plan extraction pattern for typical number and size of logs to be hauled</p> <p>2.6 Plan line shifts during hauling</p> <p>2.7 Identify and prepare future rigging points and rigging requirements</p>
3. Direct hook-up of logs	<p>3.1 Select specific logs for next turn prior to return of rigging according to planned operation</p> <p>3.2 Assess stability of logs to be extracted, and take precautions against movement according to code of practice</p> <p>3.3 Direct choker setters to prepare and hook up logs ready for extraction</p> <p>3.4 Give haul signals, according to code of practice, when all persons are clear from logs, out of bight of ropes and are in a safe area</p> <p>3.5 Monitor log movement and stop for corrective action when difficulties occur</p> <p>3.6 Maintain control of movement using signalling systems until payload is in clear sight of yarder operator</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	3.7 Report breakout process and equipment faults in line with site procedures
4. Assist with line shifts	<p>4.1 Clear all logs to be hauled with existing line position before line shift is initiated</p> <p>4.2 Notch stumps according to code requirements for the rigging method to be used, as required</p> <p>4.3 Pull slack on all lines prior to release of existing rigging, as required</p> <p>4.4 Dismantle rigging components from the existing line, check and set up on new line, as required</p> <p>4.5 Move obstructions that may cause binding or damage during hauling</p> <p>4.6 Rig spars, tail trees and intermediate supports according to workplace procedures, as required</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret workplace documentation and signage to determine job requirements
Writing	<ul style="list-style-type: none"> Use technical and w specific vocabulary to accurately and legibly complete workplace records and forms
Oral communication	<ul style="list-style-type: none"> Ask questions to clarify contents of work order or instruction
Numeracy	<ul style="list-style-type: none"> Use calculation methods to estimate payload and distances

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPHAR3202 Monitor log recovery (rigging slinger)	FWPHAR3201 Monitor log recovery (rigging slinger)	Minor updates to Application, Performance Criteria and Knowledge Evidence Updated Foundation Skills, Performance Evidence and Assessment Conditions	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWP HAR3202 Monitor log recovery (rigging slinger)

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has:

- planned and performed rigging slinger operations on four turns following workplace policies and procedures and related industry codes of practice for log recovery operations
- assisted in shifting lines according to hook tender instructions.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- content and application of applicable state or territory code of practice relevant to log recovery activities
- key features of varying site conditions, hazards and their effects on log recovery
- environmental protection practices for forest and plantation operations:
 - safe disposal of waste material
 - cleaning of plant, tools and equipment
- characteristics of trees that affect rigging slinger operations in a harvesting environment
- industry standard lengths for logs
- techniques used by rigging slingers in the log recovery process
- key features of varying signal systems used for log recovery activities:
 - tooter signals
 - two-way radio
 - visual signals
- purpose, features and operation of cable logging system components, including:
 - rigging components
 - cable systems

- workplace procedures specific to log recovery activities:
 - workplace health and safety, with particular emphasis on use of personal protective equipment (PPE), safe manual handling and fire prevention measures
 - communication reporting lines
 - reporting breakout safety and equipment faults.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated on a working cable logging operation
- resources, equipment and materials:
 - active cable logging system
 - PPE required in cable logging operations
- specifications:
 - access to workplace safety and environmental protection policies and procedures applicable to log recovery and cable logging activities
 - access to site emergency procedure
 - access to workplace standard operating procedures or operator manual for cable logging equipment.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPHAR3203 Operate integrated or split flail and wood chipper with crane

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to operate an integrated or split flail debarker and wood chipper with crane in an infield wood chipping operation. This unit includes preparing for infield wood chipping activities, conducting pre-operational machinery checks, setting up machinery, loading whole trees and logs with crane, monitoring machine operations, and implementing machine maintenance.

The unit applies to individuals who work as infield wood chipping machine operators in a commercial forest environment.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Harvesting and Haulage (HAR)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for infield	1.1 Determine job requirements from work order or instruction and,

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
wood chipping activities	<p>where required, seek clarification from appropriate personnel</p> <p>1.2 Confirm production targets and assess wood flow requirements to ensure efficient machine operation and overall productivity</p> <p>1.3 Confirm safety and environmental protection requirements for the task according to workplace procedures</p> <p>1.4 Identify, assess and take actions to mitigate risks and hazards associated with machine operations</p> <p>1.5 Identify emergency procedures to follow in the event of an emergency</p> <p>1.6 Identify type and quantity of material to be chipped, and quality requirements for chipped material</p> <p>1.7 Plan infield wood chipping activities according to work order or instruction</p> <p>1.8 Consult with appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.9 Select, fit and use personal protective equipment</p> <p>1.10 Conduct pre-operational machinery checks according to manufacturer recommendations and workplace procedures</p>
2. Set up integrated or split flail and wood chipper with crane	<p>2.1 Determine an appropriate location for integrated or split flail and wood chipper with crane</p> <p>2.2 Position machine according to work requirements, manufacturer instructions, terrain characteristics, workflow and workplace safety requirements</p> <p>2.3 Secure and set up machine according to work requirements, manufacturer instructions and workplace safety requirements</p>
3. Chip whole trees and logs	<p>3.1 Assess whole trees and logs and dispose of or recycle material unsuitable for chipping according to environmental protection practices, quality requirements and workplace procedures</p> <p>3.2 Load flail/chipper systematically using crane at feed rate applicable to safety and stability of machine, characteristics of material to be chipped, chip quality, capacity of flail and chipper and loading capacity of transport vehicles</p> <p>3.3 Chip whole trees and logs to chip sizes specified in work order</p> <p>3.4 Operate crane and manoeuvre log grapple safely and efficiently to avoid harm to people, flail/chipper, other machines and the</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>environment</p> <p>3.5 Confirm all merchantable product from the site is loaded into flail/chipper and all waste is managed according to work plan</p> <p>3.6 Monitor output for compliance with flailing and chip specifications</p> <p>3.7 Confirm safety of self and others and monitor location of people in relation to machine while machine is in operation</p> <p>3.8 Load chipped material into transport vehicles according to vehicle load and distribution requirements and load covering requirements</p> <p>3.9 Respond to critical situations requiring emergency shutdown to prevent personal injury or damage to machine or product</p>
4. Carry out operator maintenance	<p>4.1 Lock out equipment according to workplace safety and manufacturer requirements</p> <p>4.2 Access tools and service equipment required for performing routine maintenance according to manufacturer instructions</p> <p>4.3 Check flail chains, chipper knives, counter knives and anvil for wear and damage at appropriate or recommended intervals</p> <p>4.4 Complete operator maintenance tasks according to manufacturer recommendations and workplace procedures</p> <p>4.5 Record and report production outcomes and equipment faults to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret workplace documentation to determine requirements
Writing	<ul style="list-style-type: none"> Use technical and workplace specific vocabulary to accurately and legibly complete workplace records and forms
Numeracy	<ul style="list-style-type: none"> Interpret numerical and graphical information shown on machine screens, displays and gauges relevant to safe machine operation

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPHAR3203 Operate integrated or split flail and wood chipper with crane	FWPHAR3215 Operate a heavy production mobile chipper	Redesigned unit using content from FWPHAR3215 Operate a heavy production mobile chipper to provide specific skills for specialised in-field wood chipping equipment	Not Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWP HAR3203 Operate integrated or split flail and wood chipper with crane

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has:

- planned, prepared and operated either an integrated or split flail and wood chipper with crane on four separate occasions in an infield wood chipping operation according to a work order or instructions
- carried out routine machine maintenance on two occasions.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- information and requirements contained in a production plan and site safety and environmental management plans
- health and safety requirements related to operating an integrated or split flail and wood chipper with crane in infield wood chipping operations:
 - hazardous or safe working zones
 - workplace hazards or risks related to the operation
 - factors that can change or introduce new hazards
 - risk control measures
 - legal obligations and industry standards and/or codes of practice requirements
 - warning signs and their correct positioning
 - vehicle-to-vehicle communication systems and procedures to maintain communication and workplace safety during operations
 - emergency response procedure and firefighting resources
- environmental care related to infield wood chipping operations:

- potential impacts of infield wood chipping operations on onsite and offsite environmental values (cultural heritage, flora and fauna, ground compaction, water contamination and soil erosion)
- control measures, restrictions, legal obligations and industry standards and codes of practice requirements related to the operation
- procedures for safe operation of integrated or split flail and wood chipper with crane:
 - pre-operational checks and detect faults
 - machine stability in different terrain conditions and slopes
 - shut down
- factors and their effects on the stability and operation of integrated or split flail and wood chipper with crane
 - slope and terrain conditions
 - machine specifications and restrictions
- reporting requirements regarding site, incident and hazard, personal reporting, check-in, production, and machine maintenance
- woodchip specifications
- features of integrated or split flail and wood chipper with crane:
 - static/mobile
 - integrated/split flail – chipper
 - crane
 - chains, knives and anvils
 - machine components
 - machine capacity
 - machine preparation and positioning
- techniques for determining and optimising feed rate
- influences on feed rate for flail/chipper:
 - machine capacity
 - type and condition of timber
 - product type and quality requirements
 - loading capacity of transport vehicles
- procedures for loading chips into truck for transport
- mass and load covering requirements of transport vehicles
- machine maintenance, servicing requirements and procedures for removing, replacing and disposing of chains, chipper knives, counter knives and anvil.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in an infield wood chipping setting

- resources, equipment and materials:
 - integrated or split flail and wood chipper with crane
 - whole trees and logs to be chipped
 - personal protective equipment required in infield wood chipping operations
 - vehicle-to-vehicle communication system
 - truck to load
- specifications:
 - access to work order or instruction detailing infield wood chipping activities to be carried out by operator
 - access to workplace safety and environmental protection policies and procedures applicable to infield wood chipping operations
 - access to production plan
 - access to workplace safe operating procedures or operator manual for integrated or split flail and wood chipper with crane
 - access to user manual for vehicle-to-vehicle communication system.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPHAR3204 Operate split flail and wood chipper fed by mobile machine

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to operate a split flail and wood chipper fed by a mobile machine in an infield wood chipping operation. This unit includes preparing for infield wood chipping activities, conducting pre-operational machinery checks, setting up machinery, loading whole trees and logs with mobile machine, monitoring machine operations, and implementing machine maintenance.

The unit applies to individuals who work as infield wood chipping machine operators in a commercial forest or land clearing settings.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Harvesting and Haulage (HAR)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for infield	1.1 Determine job requirements from work order or instruction and,

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
wood chipping activities	<p>where required, seek clarification from appropriate personnel</p> <p>1.2 Confirm production targets and assess wood flow requirements to ensure efficient machine operation and overall productivity</p> <p>1.3 Confirm safety and environmental requirements for the task according to workplace procedures</p> <p>1.4 Identify, assess and take actions to mitigate risks and hazards associated with machine operations</p> <p>1.5 Identify emergency plan procedures to follow in the event of an emergency</p> <p>1.6 Identify type and quantity of material to be chipped, and quality requirements for chipped material</p> <p>1.7 Plan infield wood chipping activities according to work order or instruction</p> <p>1.8 Consult with appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.9 Select, fit and use personal protective equipment</p> <p>1.10 Conduct pre-operational machinery checks according to manufacturer recommendations and workplace procedures</p>
2. Set up split flail and wood chipper	<p>2.1 Determine an appropriate location for flail and wood chipper</p> <p>2.2 Position flail and chipper according to work requirements, manufacturer instructions, terrain characteristics, workflow and workplace safety requirements</p> <p>2.3 Secure and set up flail and chipper according to work requirements, manufacturer instructions and workplace safety requirements</p>
3. Flail and chip whole trees and logs	<p>3.1 Assess whole trees and logs and dispose of or recycle material unsuitable for chipping according to environmental protection practices, quality requirements and workplace procedures</p> <p>3.2 Operate flail/chipper at feed rate applicable to safety and stability of machine, characteristics of material to be chipped, chip quality, capacity of flail and chipper and loading capacity of transport vehicles</p> <p>3.3 Operate flail/chipper safely and efficiently to avoid harm to people, flail/chipper, other machines and the environment</p> <p>3.4 Confirm all merchantable product from the site is loaded into flail/chipper and all waste is managed according to work plan</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>3.5 Chip flailed material to chip sizes and bark allowances specified in work order</p> <p>3.6 Monitor output for compliance with flail and chip specifications</p> <p>3.7 Confirm safety of self and others and monitor location of people in relation to flail and chipper while machines are in operation</p> <p>3.8 Load chipped material into transport vehicles if applicable according to vehicle load and distribution requirements and load covering requirements</p> <p>3.9 Respond to critical situations requiring emergency shutdown to prevent personal injury or damage to machine or product</p>
4. Carry out operator maintenance	<p>4.1 Lock out machine according to workplace safety and manufacturer requirements</p> <p>4.2 Access tools and service equipment required for performing routine maintenance according to manufacturer instructions</p> <p>4.3 Check flail chains, chipper knives, counter knives and anvil for wear and damage at appropriate or recommended intervals</p> <p>4.4 Complete operator maintenance tasks according to manufacturer recommendations and workplace procedures</p> <p>4.5 Record and report production outcomes and equipment faults to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret workplace documentation to determine requirements
Writing	<ul style="list-style-type: none"> Use technical and workplace specific vocabulary to accurately and legibly complete workplace records and forms
Numeracy	<ul style="list-style-type: none"> Interpret numerical and graphical information shown on machine screens, displays and gauges relevant to safe machine operation

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPHAR3204 Operate split flail and wood chipper fed by mobile machine	FWPHAR3215 Operate a heavy production mobile chipper	Redesigned unit using content from FWP HAR3215 Operate a heavy production mobile chipper to provide specific skills for specialised in-field wood chipping equipment	Not Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWP HAR3204 Operate split flail and wood chipper fed by mobile machine

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has:

- planned, prepared and operated a split flail and wood chipper fed by mobile machine in an infield wood chipping operation according to a work order or instructions
- carried out routine machine inspection/maintenance on start-up and shutdown of operations.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- information and requirements contained in a production plan and site safety and environmental management plans
- health and safety requirements related to operating a split flail and wood chipper fed by a mobile machine in infield wood chipping operations:
 - hazardous or safe working zones
 - workplace hazards and risks associated with the operation
 - factors that can change or introduce new hazards
 - risk control measures
 - legal obligations and industry standards and/or codes of practice related to the operation
 - warning signs and their correct positioning
 - vehicle-to-vehicle communication systems and procedures to maintain communication and workplace safety during operations
 - emergency response procedure and firefighting resources
- environmental care related to infield wood chipping operations:

- potential impacts of operation on onsite and offsite environmental values (cultural heritage, flora, fauna, ground compaction, water contamination and soil erosion)
- control measures, restrictions, legal obligations and industry standards and codes of practice requirements related to the operation
- procedures for safe operation of split flail and wood chipper:
 - pre-operational checks and detect faults
 - machine stability in different terrain conditions and slopes
 - shut down
- factors and their effects on the stability and operation of split flail and wood chipper:
 - slope and terrain conditions
 - machine specifications and restrictions
- reporting requirements regarding site, incident and hazard, personal reporting, check-in, production, and machine maintenance
- woodchip specifications
- features of split flail and wood chipper:
 - static/mobile
 - chains, knives and anvils
 - machine components
 - machine capacity
 - machine preparation and positioning
- procedures for loading chips into truck for transport
- mass and load covering requirements of transport vehicles
- techniques for determining and optimising feed rate
- influences on feed rate for flail/chipper:
 - machine capacity
 - type and condition of timber
 - product type and quality requirements
 - loading capacity of transport vehicles
- machine maintenance, servicing requirements and procedures for removing, replacing and disposing of chains and cutters.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in an infield wood chipping setting
- resources, equipment and materials:
 - split flail and wood chipper
 - mobile machine to feed flail and chipper
 - whole trees and logs to be chipped

- personal protective equipment required in infield wood chipping operations
- vehicle-to-vehicle communication system
- truck to load if applicable
- specifications:
 - access to work order or instruction detailing infield wood chipping activities to be carried out by operator
 - access to workplace safety and environmental protection policies and procedures applicable to infield wood chipping operations
 - access to production plan
 - access to workplace safety and environmental protection plans
 - access to site emergency procedure
 - access to workplace safe operating procedures or operator manual for split flail and wood chipper
 - access to user manual for vehicle-to-vehicle communication system.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPHAR3205 Harvest trees manually (intermediate)

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to assess harvest sites and trees to be harvested and to plan and safely carry out manual tree-felling using a chainsaw as part of a commercial forestry operation. The unit covers the felling procedures for trees with a level of complexity that requires significant tree assessment and practical felling skills.

Individuals competent in this unit should be able to effectively fell most trees except very large trees, and/or those with significant defects and/or characteristics that cause excessive complexity.

Trees typical to the scope of this unit may have some of the following characteristics:

- lean and weight distribution that can be assessed and readily adapted to falling direction with the use of wedges and/or control with hinge-wood
- limited visible damage and/or defect
- multi-stems
- forward lean, backward lean or side lean
- small or medium size diameter that can be safely felled with intermediate felling techniques
- dead trees with minimal visible damage or defects that do not add significant complexity to the cutting technique
- various dimensions relative to other trees when working in a forest environment
- in local site conditions that add additional complexity to the felling operation, including site conditions that impact the working position of the operator or the natural direction of fall of the tree.

The unit applies to individuals who fell intermediate trees as part of commercial forestry operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Harvesting and Haulage (HAR)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for harvesting	1.1 Determine job and product quality requirements from work order or instruction and, where required, seek clarification from appropriate personnel 1.2 Confirm safety and environmental protection requirements for the task according to workplace procedures and harvesting plan 1.3 Identify, assess and take actions to mitigate risks and hazards associated with felling trees 1.4 Plan tree harvesting activities according to work order or instruction and environmental conditions 1.5 Consult and maintain communication with team members and other appropriate personnel to ensure that work is coordinated effectively with others in the workplace 1.6 Select, fit and use personal protective equipment 1.7 Obtain tools and equipment needed for the work, and check for correct operation and safety 1.8 Sharpen and adjust chainsaw or change components according to manufacturer recommendations
2. Assess harvest site	2.1 Assess location and stability of harvest site for conditions likely to affect harvesting activities 2.2 Identify and assess environmental conditions according to harvest plan 2.3 Identify trees to be felled according to harvest plan 2.4 Identify log extraction method and requirements 2.5 Determine harvesting requirements and plan tree felling sequence and general falling directions

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	2.6 Assess factors affecting harvesting requirements and detect and control specific forest or site risks and hazards
3. Assess trees and plan felling	<p>3.1 Assess tree visually to identify felling characteristics</p> <p>3.2 Confirm tree is safe to fell</p> <p>3.3 Check planned falling direction and propose deviation if required</p> <p>3.4 Select cutting pattern to optimise time, value recovery and manageable removal of sections</p> <p>3.5 Plan sequence of cuts to fell tree according to standard felling procedures and log quality requirements</p> <p>3.6 Identify trees considered outside own skill level and seek assistance from appropriate personnel where required</p> <p>3.7 Identify suitable escape routes and clear of growth and other obstacles according to environmental care principles and workplace procedures</p> <p>3.8 Note and monitor location and activity of other personnel in the work area and modify activity where required</p>
4. Fell trees	<p>4.1 Fell individual trees using selected cutting and directional falling techniques according to current Australian Standard and industry code of practice</p> <p>4.2 Adjust cutting and directional falling techniques in response to movement and condition of tree</p> <p>4.3 Use planned escape route when tree starts to fall and monitor the fall of the tree until all movement has stopped</p> <p>4.4 Delay movement back into the felling area until all tree material, including from adjacent tree crowns, has fallen or is stable enough to allow safe access back into the felling area</p> <p>4.5 Identify procedures for removal of trees that are hung-up if safe to do so</p> <p>4.6 Fell trees to meet production levels, log extraction methods and site requirements</p> <p>4.7 Dispose of waste materials according to environmental requirements and workplace procedures</p>
5. Maintain chainsaw and cutting attachments	5.1 Follow workplace health and safety procedures and manufacturer instructions to lock out equipment

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	5.2 Inspect chainsaw on completion of activities 5.3 Inspect for damage to chainsaw and cutting attachments and tag for repair, service or replacement according to workplace requirements and manufacturer recommendations if required 5.4 Remove, clean, adjust, sharpen or replace chain and other components according to workplace requirements and manufacturer recommendations

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret workplace documentation to determine work requirements
Writing	<ul style="list-style-type: none"> Use technical and workplace specific vocabulary to accurately and legibly complete workplace records and forms
Oral communication	<ul style="list-style-type: none"> Select and use appropriate spoken communication strategies with work colleagues and other personnel on site when felling trees Interpret hand signals with other operators to ensure safe tree felling
Numeracy	<ul style="list-style-type: none"> Complete routine calculations and report on size, length, diameter of felled trees

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPHAR3205 Harvest trees manually (intermediate)	FWPHAR3220 Harvest trees manually (intermediate)	Clarified Application Deleted and added new Element Updated and added new	Equivalent

		Performance Criteria Updated Foundation Skills, Performance Evidence, Knowledge Evidence and Assessment Conditions	
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Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPHAR3205 Harvest trees manually (intermediate)

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has assessed, planned and conducted the felling of six intermediate trees with a chainsaw, optimising time, value recovery and manageable removal of sections.

In completing this work, the individual must demonstrate that, for each tree, the falling technique was consistent with current Australian Standards and industry codes of practice applicable to tree felling operations.

There must also be evidence that the individual has inspected and carried out routine maintenance on one chainsaw and its cutting attachments on one occasion according to manufacturer requirements.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- Australian Standards and codes of practice applicable to tree felling operations
- workplace health and safety requirements applicable to tree felling operations:
 - personal protective equipment (PPE) and clothing
 - safety equipment
 - first aid equipment
 - firefighting equipment
 - hazard and risk control procedures
 - fatigue management procedures
 - appropriate signage
 - elimination of hazardous materials and substances procedures

- safe forest practices, including required actions relating to fire
- techniques for manual handling (shifting, lifting and carrying)
- state/territory forest codes of practice applicable to tree felling operations
- types and purposes of cuts to fell trees:
 - scarf cutting
 - back cutting using different methods to provide hinge-wood and wedges to maintain control of tree
- optimisation in tree felling operations:
 - time
 - value recovery
 - manageable removal of sections
- typical tree defects and how they affect tree felling activities
- methods used to identify intermediate trees:
 - trees that contain hazards and are deemed unsafe to fell
 - trees that are considered outside own skill level
 - where cuts made may lead to loss of control of tree in felling
- hazards and risks related to falling trees with chainsaws and methods to minimise associated risks
- methods used to remove trees that are hung up, and procedures for removal
- methods for assessing chain condition
- cutting patterns used to optimise time to fell trees
- environmental protection measures that meet legal obligations and requirements of the industry, state and local standards and/or codes of practice for falling trees with chainsaws:
 - protection of natural and cultural assets
 - cleaning plant, tools and equipment
 - disposing of, recycling and reusing materials
- types, safe use, operation and maintenance of chainsaws, support tools and attachments
- components of a harvesting plan:
 - extraction plan
 - traffic plan
 - environmental requirements
 - restricted areas
 - identified hazards
 - product volumes
- log extraction methods (skidding, forwarding, using cable or shovel logging)
- work order information regarding:
 - tree felling requirements
 - requirements for product quality
- harvesting plan.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a workplace location or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - chainsaw and accessories
 - suitable trees to fell
 - tools and equipment to fell trees
 - PPE required in tree felling operations
 - communication system
- specifications:
 - access to safety and environmental protection workplace policies and procedures applicable to tree felling and chainsaw operations
 - access to harvesting plan
 - access to workplace standard operating procedures or operator manual for chainsaws.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPHAR3209 Harvest trees manually (advanced)

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the knowledge and skills required to assess harvest sites and trees to be harvested and to plan and safely harvest trees using a chainsaw as part of a commercial forestry operation. The unit covers the felling procedures for trees with a level of complexity that requires significant tree assessment and advanced practical felling skills.

Individuals competent in this unit should be able to effectively fell trees of any size, species and condition, including those with significant defects and characteristics that cause excessive felling complexity, that are deemed safe to fell.

Trees typical to the scope of this unit may have some of the following characteristics:

- lean and weight distribution that adds significant complexity yet can be assessed and adapted to site requirements
- large diameter trees, but not exclusively, that can be safely felled with complex felling heavy forward lean
- lean in a direction away from the fall zone or side-leaning to the available fall zone
- damage or defect that requires complex felling techniques, including trees with visible lightning damage, burnt out trees and those with fire damaged butts
- hung up trees that can be removed safely
- multi legged, hollow butts, culls, stags
- species prone to free splitting and adverse reactions during falling
- complex multi stems
- diameter of tree greater than chainsaw bar length
- terrain, slope and an environment that can add significant complexity to the operation.

The unit applies to individuals who fell advanced trees as part of commercial forestry operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Harvesting and Haulage (HAR)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for harvesting	1.1 Determine job and product quality requirements from work order or instruction and, where required, seek clarification from appropriate personnel 1.2 Confirm safety and environmental protection requirements for the task according to workplace procedures and harvesting plan 1.3 Identify, assess and take actions to mitigate risks and hazards associated with felling trees 1.4 Plan tree harvesting activities according to work order or instruction and environmental conditions 1.5 Consult and maintain communication with team members and other appropriate personnel to ensure that work is coordinated effectively with others in the workplace 1.6 Select, fit and use personal protective equipment 1.7 Obtain tools and equipment needed for the work, and check for correct operation and safety 1.8 Sharpen and adjust chainsaw or change components according to manufacturer recommendations
2. Assess harvest site	2.1 Assess location and stability of harvest site for conditions likely to affect harvesting activities 2.2 Identify and assess environmental conditions according to harvest plan 2.3 Identify trees to be felled according to harvest plan 2.4 Identify log extraction method and requirements 2.5 Determine harvesting requirements and plan tree felling sequence and general falling directions 2.6 Assess factors affecting harvesting requirements, and detect and

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	control specific forest or site risks and hazards
3. Assess tree and plan felling	<p>3.1 Assess tree visually to identify felling characteristics</p> <p>3.2 Confirm tree is safe to fell</p> <p>3.3 Assess and check required falling direction and possible deviation</p> <p>3.4 Select cutting pattern to optimise time, value recovery and manageable removal of sections</p> <p>3.5 Plan sequence of cuts to fell tree according to standard felling procedures and log quality requirements</p> <p>3.6 Identify suitable escape routes and clear of growth and other obstacles according to environmental care principles and workplace procedures</p> <p>3.7 Identify trees considered outside own skill level and seek assistance from appropriate personnel where required</p> <p>3.8 Note and monitor location and activity of other personnel in the work area and modify activity where required</p>
4. Fell trees	<p>4.1 Fell individual trees using planned and appropriate cutting and directional falling techniques according to current Australian Standards and industry codes of practice</p> <p>4.2 Adjust cutting and directional falling techniques in response to movement and condition of tree</p> <p>4.3 Use planned escape route when tree starts to fall, and monitor the fall of the tree until all movement has stopped</p> <p>4.4 Delay movement back into the felling area until all tree material, including from adjacent tree crowns, has fallen, or is stable enough to allow safe access back into the felling area</p> <p>4.5 Identify procedures for removal of trees that are hung-up if safe to do so</p> <p>4.6 Fell trees to meet production levels, log extraction methods and site requirements</p> <p>4.7 Dispose of waste materials in line with environmental and operational requirements</p>
5. Maintain chainsaw and cutting attachments	<p>5.1 Follow workplace health and safety procedures and manufacturer instructions to lock out equipment</p> <p>5.2 Inspect chainsaw on completion of activities</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>5.3 Inspect for damage to chainsaw and cutting attachments and tag for repair, service or replacement according to workplace requirements and manufacturer recommendations</p> <p>5.4 Remove, clean, adjust, sharpen or replace chain and other components according to workplace requirements and manufacturer recommendations</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret workplace documentation to determine work requirements
Writing	<ul style="list-style-type: none"> Use technical and workplace specific vocabulary to accurately and legibly complete workplace records and forms
Oral communication	<ul style="list-style-type: none"> Select and use appropriate spoken communication strategies with work colleagues and other personnel on site when felling trees Interpret hand signals with other operators to ensure safe tree felling
Numeracy	<ul style="list-style-type: none"> Complete routine calculations and report on size, length and diameter of felled trees

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPHAR3209 Harvest trees manually (advanced)	FWPHAR3221 Harvest trees manually (advanced)	<p>Clarified Application</p> <p>Updated and added new Performance Criteria</p> <p>Updated Foundation Skills, Performance</p>	Equivalent

Code and title current version	Code and title previous version	Comments	Equivalence status
		Evidence, Knowledge Evidence and Assessment Conditions	

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWP HAR3209 Harvest trees manually (advanced)

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has assessed, planned and conducted the felling of six advanced trees with a chainsaw, optimising time, value recovery and manageable removal of sections.

In completing this work, the individual must demonstrate that, for each tree, the falling technique was consistent with current Australian Standards and industry codes of practice applicable to tree felling operations.

There must also be evidence that the individual has inspected and carried out routine maintenance on one chainsaw and its cutting attachments on one occasion according to manufacturer requirements.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- Australian Standards and codes of practice applicable to tree felling operations
- workplace health and safety requirements applicable to tree felling operations:
 - personal protective equipment (PPE) and clothing
 - safety equipment
 - first aid equipment
 - firefighting equipment
 - hazard and risk control procedures
 - fatigue management procedures
 - appropriate signage
 - elimination of hazardous materials and substances procedures
 - safe forest practices, including required actions relating to fire

- techniques for manual handling (shifting, lifting and carrying)
- state/territory forest codes of practice applicable to tree felling operations
- optimisation in tree felling operations:
 - time
 - value recovery
 - manageable removal of sections
- types and purposes of cuts to fall advanced trees:
 - scarf cutting
 - back cutting using different methods to provide hinge-wood and wedges to maintain control of tree
- typical tree defects and how they affect tree felling activities
- methods to identify advanced trees:
 - trees that contain hazards and are deemed unsafe to fell
 - trees considered outside own skill level
 - where cuts made may lead to loss of control of tree in felling
- hazards and risks related to falling trees with chainsaws, and methods to minimise associated risks
- methods used to remove trees that are hung up, and procedures for removal
- methods for assessing chain condition
- cutting patterns used to optimise time to fell trees
- environmental protection measures that meet legal obligations and requirements of the industry, state and local standards and/or codes of practice for falling trees with chainsaws:
 - protection of natural and cultural assets
 - cleaning plant, tools and equipment
 - disposing of, recycling and reusing materials
- types, safe use, operation and maintenance of chainsaws, support tools and attachments
- components of a harvesting plan:
 - extraction plan
 - traffic plan
 - environmental requirements
 - restricted areas
 - identified hazards
 - product volumes
- log extraction methods (skidding, forwarding, using cable or shovel logging)
- work order information regarding:
 - tree felling requirements
 - requirements for product quality
 - harvesting plan.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a workplace location or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - chainsaw and accessories
 - suitable trees to fell
 - tools and equipment to fell trees
 - personal protective equipment required in tree felling operations
 - communication system
- specifications:
 - access to workplace safety and environmental protection policies and procedures applicable to tree felling and chainsaw operations
 - access to harvesting plans
 - access to workplace standard operating procedures or operator manual for chainsaws.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPHAR3212 Operate yarder

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to operate a yarder for log production and use optimised production processes in a commercial forest harvesting environment.

The unit applies to individuals who work as yarder operators in cable logging operations in a forest or plantation harvesting environment.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation, standards and codes of practice that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Harvesting and Haulage (HAR)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the range of conditions.</i>
1. Plan and prepare to operate a yarder	1.1 Determine job requirements from work order or instruction and, where required, seek clarification from appropriate personnel 1.2 Confirm production plan targets for felling and processing, and

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the range of conditions.</i>
	<p>assess wood flow requirements to ensure efficient machine operation and overall productivity</p> <p>1.3 Confirm safety and environmental protection requirements for the task according to workplace procedures</p> <p>1.4 Confirm type, size and quantity of stems and/or logs to be moved with yarder to ensure that loads, machine and cable system are consistent with safe working load requirements and workplace health and safety and workplace procedures</p> <p>1.5 Identify, assess and take actions to mitigate risks and hazards associated with yarder operations</p> <p>1.6 Identify emergency plan procedures to follow in the event of an emergency</p> <p>1.7 Use production plans to identify location of landing area, extraction routes and entry points for efficient extraction of stems and/or logs and minimum interference with other forestry operations</p> <p>1.8 Assess terrain characteristics to establish machine stability</p>
2. Set up yarder	<p>2.1 Use industry-accepted warning signs, vehicle-to-vehicle communication systems and procedures to maintain communication and workplace safety during yarder set-up and operation</p> <p>2.2 Move yarder to the landing according to workplace and regulatory and manufacturer requirements</p> <p>2.3 Position yarder on landing for stability according to planned system design by adjusting the technique in response to terrain conditions and ensuring a stable level support base for outriggers</p> <p>2.4 Check that tower or spar is rigged to suit system design and raised according to manufacturer recommendations and regulatory requirements</p> <p>2.5 Work with other personnel to tension lines with enough slack to facilitate yarder movements</p>
3. Inspect and maintain cable system	<p>3.1 Observe mechanical system components during normal operations, note faults and take corrective actions</p> <p>3.2 Inspect system components routinely and maintain, repair or replace according to manufacturer recommendations, workplace procedures and regulatory requirements</p> <p>3.3 Inspect guylines routinely and adjust tension to equalise load</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the range of conditions.</i>
	<p>according to manufacturer recommendations, workplace procedures and regulatory requirements</p> <p>3.4 Lubricate blocks to maintain operational condition</p> <p>3.5 Identify repetitive damage of cable system and review and amend operational practices</p>
4. Haul stems and/or logs	<p>4.1 Carry out pre-operational checks on machine and cable system according to workplace procedures and manufacturer recommendations to ensure optimal production performance and operational effectiveness</p> <p>4.2 Perform yarder operations only in response to breakout, landing signals or own transmitted signals</p> <p>4.3 Monitor, manage and control yarder mechanical systems to maintain log alignment and satisfy safe operating limits</p> <p>4.4 Control tension in running and standing lines to balance the lift and deflection consistency with payload and rope capacities</p> <p>4.5 Halt haul and clear hang-ups and obstacles in cooperation with the rigging slinger</p> <p>4.6 Use haul speed and line swing to position logs on the landing, control payloads and work with the chaser to optimise workflow</p> <p>4.7 Return rigging to extraction point and position according to signals from rigging slinger</p> <p>4.8 Operate yarder to minimise breakage and damage to stems and/or logs, standing trees and environment according to workplace procedures and production plan requirements</p>
5. Carry out machine operator maintenance	<p>5.1 Shut down, de-energise and isolate yarder according to workplace procedures or manufacturer recommendations</p> <p>5.2 Clean, check and carry out routine maintenance activities on yarder to maintain optimum operational performance</p> <p>5.3 Identify and report machine faults, malfunctions or problems according to workplace procedures and manufacturer recommendations</p> <p>5.4 Clean work area of all debris and waste resulting from yarder operation and dispose of or recycle waste materials according to workplace environmental management plan</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the range of conditions.</i>
	5.5 Record yarder operations and maintenance activities

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret workplace documentation to determine work requirements
Writing	<ul style="list-style-type: none"> Use technical and workplace specific vocabulary to accurately and legibly complete workplace records and forms
Oral communication	<ul style="list-style-type: none"> Ask questions to clarify contents of production plans
Numeracy	<ul style="list-style-type: none"> Interpret gauges relevant to safe machinery operation Determine haul speed to optimise workflow

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPHAR3212 Operate yarder	FWPHAR3231 Operate yarder	Minor changes to Application and Knowledge Evidence Added new Performance Criteria Updated Foundation Skills, Performance Evidence and Assessment Conditions	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWP HAR3212 Operate yarder

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has:

- operated a yarder and cable system safely and effectively by performing at least four turns to lift and carry stems and/or logs on slopes from the stump to the roadside or landing area according to a production plan
- carried out routine maintenance on a yarder.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- information and requirements contained in a production plan and site safety and environmental management plans
- hazardous or safe working zones in cable harvesting operations
- health and workplace hazards or risks related to yarder operations, and factors that can change or introduce new hazards
- industry-accepted work health and safety risk control measures, legal obligations and requirements of industry standards and/or codes of practice for yarder operations as outlined in workplace procedures and production plan
- warning signs, their correct positioning, vehicle-to-vehicle communication systems and procedures to maintain communication and workplace safety during yarder operations
- required emergency response procedure, including firefighting resources and emergency response
- potential impacts of yarder operations on onsite and offsite environmental values, including cultural heritage, flora, fauna, ground compaction, water contamination and soil erosion
- environmental control measures, restrictions, legal obligations and requirements of industry standards and codes of practice for yarder operations as outlined in workplace procedures and production plan

- landings usage
- wood flow requirements and extraction and production bottlenecks particular to a production system
- effects of weather on ground conditions
- effects of slope and terrain conditions on yarder stability and operation
- machine specifications, restrictions and safe operating procedures, including stability and operation in different terrain conditions and slopes, and methods to shut down, de-energise and isolate the machine as outlined in workplace procedures or operator manual
- cable systems used in yarder operations
- machine cabin controls and operating procedures
- machine operating techniques to pull stems and/or logs and avoid mechanical damage to products during operations
- techniques to minimise damage to products, machine, cables and environment
- methods to conduct machine and cable system pre-operational checks and detect faults as outlined in workplace procedures or operator manual
- location of machine's major mechanical systems and parts of the machine in which energy is stored as outlined in operator manuals for safe and efficient conduct of the machine operator maintenance tasks
- machine and cable systems maintenance and servicing requirements as outlined in user or operator manuals
- reporting requirements regarding site, incident and hazard, personal reporting, production and machine maintenance.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated on a working cable logging operation
- resources, equipment and materials:
 - active cable logging system
 - personal protective equipment required in harvesting operations
- specifications:
 - access to workplace safety and environmental protection policies and procedures applicable to forest harvesting operations
 - access to production plan
 - access to site emergency procedure
 - access to workplace standard operating procedures or operator manual for cable logging equipment.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPHAR3222 Use on-board computer systems for forwarder

Modification History

Release	Comments
Release 2	This version released with FWP Forest and Wood Products Training Package Version 5.0.
Release 1	This version released with FWP Forest and Wood Products Training Package Version 3.0.

Application

This unit of competency describes the skills and knowledge required to use on-board computer technology and software for forwarders to optimise loading processes after processing and extraction in a commercial forest harvesting environment.

The unit applies to individuals who work as forwarder operators. Operators generally work under broad direction to complete routine activities related to harvesting operations and take responsibility for their work.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Harvesting (HAR)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Start up and shut down the on-board computer	1.1 Start up the on-board computer and respond to display prompts by pressing the appropriate buttons 1.2 Edit settings in work mode display to update information about

	<p>operator and the start and end of the shift</p> <p>1.3 Check that a connection exists between the weight scale and the Bluetooth modem where fitted</p> <p>1.4 Use mouse buttons and keyboard to shut down the computer</p>
2. Create an active site file	<p>2.1 Use menus and fields to create a new site, select, disable or add tree assortments to the new site and press button to complete file set up</p> <p>2.2 Use work mode feature and icons to view basic information about machine, engine and auxiliary functions</p> <p>2.3 Use quick adjustment menu and/or the setting mode to select and adjust parameter values for machine movements</p> <p>2.4 Return to work mode display and select option to start new load</p>
3. Register load / production information	<p>3.1 Identify on screen that GPS system is active to ensure it runs correctly and report faults to appropriate personnel in line with workplace procedures</p> <p>3.2 Start loading operations and use registration button and software functions to register and edit load or production parameters according to machine configuration and equipment profile</p> <p>3.3 Use the weight menu to set-up or edit the weight factors and default volumes of a maximum full load for specific tree assortments</p> <p>3.4 Use work mode display and system messages to view information about loading and standard machine operation according to load parameters and machine configuration</p>
4. Calibrate machine weight scale where fitted	<p>4.1 Use calibration menu and methods to conduct regular reference calibration of Active Load Space pressure sensors to ensure accuracy of weighing measurements</p> <p>4.2 Use calibration menu and methods to conduct regular dynamic and static reference calibration of the boom weight scale to ensure accuracy of weighing measurements</p> <p>4.3 Regularly check and reset grapple to the 'zero point', by using reset button on the keyboard panel</p> <p>4.4 Check the static calibration factor for possible changes in weight calibrations</p> <p>4.5 Identify and report faults and errors related to the on-board computer system</p>
5. Store, access and retrieve production data	<p>5.1 Use software menu, sub-menus and display prompts to end production site file and save on a data storage device</p> <p>5.2 Transfer files between computers or via mobile devices and</p>

	applications
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Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> read user manual for machine's on-board computer system
Oral Communication	<ul style="list-style-type: none"> interact verbally and non-verbally with technical personnel using communication means to remediate computer errors or resolve matters about electronic files and data use appropriate vocabulary including technical language directly relevant to role
Numeracy	<ul style="list-style-type: none"> interpret file variables including weight factors and volumes of load
Navigate the world of work	<ul style="list-style-type: none"> understand main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> use modes of communication suitable to purpose to confirm and clarify understanding communicate and report operational task and safety information to relevant personnel participate in conversations relevant to role by responding and explaining as required
Get the work done	<ul style="list-style-type: none"> recognise and respond to routine problems plan and organise own work activities and resources

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPHAR3222 Use on-board computer systems for forwarder Release 2	FWPHAR3222 Use on-board computer systems for forwarder Release 1	Minor changes in text providing clarification without changing the requirements of the unit	Equivalent unit

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPHAR3222 Use on-board computer systems for forwarder

Modification History

Release	Comments
Release 2	This version released with FWP Forest and Wood Products Training Package Version 5.0.
Release 1	This version released with FWP Forest and Wood Products Training Package Version 3.0.

Performance Evidence

An individual demonstrating competency must satisfy all the elements and performance criteria of this unit. There must be evidence that, on at least one occasion, the individual has:

- created an active site file for loading operation
- registered load and production information at start of loading operation
- set-up and/or edited the weight factors and default volume settings
- used software settings and calibration methods to conduct accurate calibrations of the weight scale and sensors where fitted
- edited parameter values for machine movements
- ended production and saved and transferred file for the production site by using a data storage system or email or mobile devices.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- components of wireless weighing system and its mode of operation where fitted
- software and files used with on-board computers including basic features and applications
- navigating on-board computer menus, sub-menus and fields
- fields and data inputs required to start the loading operation
- setting-up and editing the weight factors and default volumes of a maximum load for a variety of tree assortments
- settings and methods for editing parameter values for machine movements
- methods to calibrate the weighing system and improve accuracy of measurements
- factors that affect accuracy of the weighing measurement
- ending production and saving and transferring files using a data storage system or mobile app

- methods to identify faults related to the on-board computer system and global positioning system (GPS).

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a logging site or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - forwarder equipped with on-board computer and weighing system
 - data storage system or mobile system/app for the purpose of saving and transferring production files
 - personal protective equipment required in harvesting operations
- specifications:
 - access to user manual for the on-board computer system

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPHAR3232 Operate harvesting machine with winch-assist system

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to operate a harvesting machine with a winch-assist system. This unit includes planning for work, identifying hazards and risks, assessing worksite conditions, safely and securely positioning the anchor and carrying out machine operator maintenance.

The unit applies to individuals who work as winch-assisted harvester operators in a forest or plantation setting.

Individuals undertaking this unit must be competent operators of at least one of the following types of forest machines: skidder, forwarder, harvester or feller buncher.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Harvesting and Haulage (HAR)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for work	1.1 Determine job requirements from work order or instruction and, where required, seek clarification from appropriate personnel 1.2 Confirm production targets for harvesting and assess wood flow requirements to ensure efficient machine operation and overall productivity 1.3 Confirm safety and environmental protection requirements for the task according to workplace procedures 1.4 Identify, assess and take actions to mitigate risks and hazards associated with winch-assist harvesting operations 1.5 Identify emergency plan procedures to follow in the event of an emergency 1.6 Identify area in which winch-assisted harvesting operations are to be conducted 1.7 Select, fit and use personal protective equipment 1.8 Inspect, test, replace and maintain cable and end termination fittings according to manufacturer specifications and workplace procedures
2. Assess worksite	2.1 Identify and assess terrain and ground conditions on worksite likely to affect winch-assisted harvesting operations 2.2 Assess maximum safe slope on worksite, taking into account terrain conditions, slope and soil type according to workplace procedures 2.3 Carry out risk assessments according to workplace procedures 2.4 Evaluate outcomes of assessment of site conditions, maximum safe slope and risks to determine if any changes are required to work order or work instructions
3. Position winch-assist machine	3.1 Determine position of winch assist machine according to workplace procedures 3.2 Assess proposed position of winch assist machine against criteria for placement of machine according to safety and workplace procedures 3.3 Test position of winch assist machine according to workplace procedures
4. Operate winch-assist	4.1 Connect harvesting machine to winch assist machine according to

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
harvesting machine	<p>manufacturer instructions and workplace procedures</p> <p>4.2 Carry out pre-start checks of harvesting machine according to manufacturer instructions and workplace procedures</p> <p>4.3 Position harvesting machine on slope according to workplace procedures</p> <p>4.4 Check and maintain condition of cable by setting correct tension, working within specified departure angles, minimising shock loading, inspecting for wear and integrity, and avoiding physical damage to cable</p> <p>4.5 Apply techniques to increase traction and maximise stability of harvesting machine before and during commencing operational tasks</p> <p>4.6 Complete operational tasks according to work order or work instructions</p>
5. Carry out machine operator maintenance	<p>5.1 Park and shut down harvester according to manufacturer instructions and workplace procedures</p> <p>5.2 Clean, check and carry out routine maintenance activities on harvesting machine and winch-assist machine to maintain optimum operational performance according to manufacturer specifications</p> <p>5.3 Identify and report faults, malfunctions or problems according to workplace procedures and manufacturer recommendations</p> <p>5.4 Record harvester operations and maintenance activities</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret workplace documentation to determine work requirements
Writing	<ul style="list-style-type: none"> Use technical and enterprise specific vocabulary to accurately and legibly complete workplace records and forms
Oral communication	<ul style="list-style-type: none"> Ask questions to clarify contents of production plans

Skill	Description
Numeracy	<ul style="list-style-type: none"> Interpret numerical and graphical information shown on machine screens, displays and gauges relevant to safe machine operation

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPHAR3232 Operate harvesting machine with winch-assist system	Not applicable	This unit has been created to address an emerging skill or task required by industry	Newly created

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWP HAR3232 Operate harvesting machine with winch-assist system

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has:

- planned, prepared and safely and effectively operated two different types of harvesting machines with winch-assist system on two occasions according to a work order or work instructions. The harvesting machines must be selected from the following:
 - skidder
 - forwarder
 - harvester
 - feller buncher
- carried out routine maintenance on a harvesting machine with winch-assist system on two occasions.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- information and requirements in production, site safety and environmental management plans relevant to forest harvesting operations
- industry standards, codes of practice and guidelines for harvesting on steep slopes and their requirements as outlined in site safety and environmental management plans
- safe work procedures and safe working zones in forest harvesting operations
- hazards and risks related to operating harvesting machines with winch-assist system, and factors that can change or introduce new hazards
- types and correct positioning of warning signs, vehicle-to-vehicle communication systems, and procedures to maintain communication and workplace safety during winch-assist harvesting operations
- firefighting and emergency response procedures

- potential impacts of winch-assist harvesting operations on onsite and offsite environmental values:
 - cultural heritage
 - flora
 - fauna
 - ground compaction
 - water contamination
 - soil erosion
- environmental protection procedures relevant to forest harvesting operations
- types of winch-assist systems:
 - systems with one cable, where the winch is attached to the harvesting machine (integral)
 - systems with one or more winches fitted to a machine positioned at the top of an incline (independent)
- reasons for using winch-assist system:
 - safety
 - available steep slope fibre
 - reduce manual felling
- maximum safe slope for using harvesting machines with winch assist system
- features of winch-assist system:
 - cables and end termination fittings
 - safety, braking and emergency backup systems
- procedures for operating winch assist system:
 - pre-start checks of cables and end termination fittings
 - operation of controls for winch-assist system
 - procedures for positioning machine on slope
 - techniques to increase traction and maximise stability of harvesting machine before and during operation
 - methods to detect faults as outlined in operator manual
 - machine and cable systems maintenance and servicing requirements as outlined in operator manual
- criteria for safe placement of winch-assist machine:
 - access
 - ground stability
 - alignment to felling face
 - cable path
 - cable departure point from anchor
- effects of slope and terrain conditions on machine stability and operation
- harvesting machine types, specifications, restrictions and safe operating procedures, stability and operation in different terrain conditions and slopes, and methods to shut down the machine as outlined in workplace procedures or operator manual

- reporting requirements regarding site, incident and hazard, personal reporting, check-in, production, machine maintenance and block completion.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest harvesting setting
- resources, equipment and materials:
 - harvesting machines with winch-assist system
 - trees to be harvested
 - personal protective equipment required in harvesting operations
 - vehicle-to-vehicle communication system
- specifications:
 - access to work order or instruction detailing harvesting activities to be carried out by operator
 - access to workplace safety and environmental protection policies and procedures applicable to forest harvesting operations
 - access to harvesting plan
 - access to site emergency procedure
 - access to workplace safe operating procedures or operator manual for harvesting machine and winch-assist system
 - access to user manual for vehicle-to-vehicle communication system.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPHAR3234 Conduct mechanical processor operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to operate a wheeled or tracked mechanical processor to process trees, and to segregate and stack logs, in a commercial forest harvesting environment.

The unit applies to individuals who operate a wheeled or tracked mechanical processor as part of forestry operations.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Harvesting and Haulage (HAR)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for mechanical processor operations	1.1 Determine job requirements from work order or instruction and, where required, seek clarification from appropriate personnel 1.2 Confirm production targets and assess wood flow requirements to ensure efficient machine operation and overall productivity 1.3 Confirm workplace health and safety requirements, including use of personal protective equipment (PPE) and machine guards, for the

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>task</p> <p>1.4 Confirm environment protection requirements, including identifying potential impact of mechanical processor operations on onsite and offsite environmental values including cultural heritage, flora, fauna, ground compaction, water contamination and soil erosion</p> <p>1.5 Identify, assess and take actions to mitigate risks and hazards associated with machine operations</p> <p>1.6 Identify emergency plan procedures to follow in the event of an incident or accident</p> <p>1.7 Select equipment appropriate to work requirements and check for operational effectiveness</p> <p>1.8 Identify access to tree or log to be extracted and assess working conditions for safety</p> <p>1.9 Consult with appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.10 Plan mechanical processor operations according to workplace procedures, environmental and heritage concerns</p>
2. Operate equipment	<p>2.1 Conduct pre-operational checks on equipment and attachments according to manufacturer recommendations and workplace procedures</p> <p>2.2 Establish and maintain communication with other personnel and comply with safety signage according to workplace requirements</p> <p>2.3 Detect site hazards associated with processor operations, and use safe operating techniques to minimise risk</p> <p>2.4 Operate mechanical processor within equipment capabilities and limitations and workplace procedures</p> <p>2.5 Manoeuvre mechanical processor to ensure safe and efficient operations</p> <p>2.6 Adjust operating techniques to meet work requirements and site conditions</p>
3. Process individual trees	<p>3.1 Monitor movement and whereabouts of other personnel to ensure safety</p> <p>3.2 Plan processing to ensure minimal tree damage and maximum recovery</p> <p>3.3 Position equipment for stable and safe access to felled tree and to</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>ensure loads are placed within rated load/reach capacity</p> <p>3.4 Program or modify processing controller to produce standard length and diameter of logs with optimal grade and length combination according to work plan requirements</p> <p>3.5 Adjust processing techniques in response to unexpected characteristics, movement or condition of tree</p> <p>3.6 Move timber/stems to pre-bunching site, ensuring personnel safety and minimal damage to timber and surrounding environment</p> <p>3.7 Move equipment over pre-arranged routes with minimal damage to environment</p>
4. Segregate and stack logs	<p>4.1 Locate stacks to provide appropriate space for conduct of other landing operations in line with planned layout and workplace requirements</p> <p>4.2 Position and construct log stacks to provide stability and minimise problems from slippage and falling of logs</p> <p>4.3 Carry out maintenance of log stacks according to planned layout and workplace requirements</p> <p>4.4 Visually assess delivered logs and direct/move to appropriate location for further processing or stacking</p>
5. Carry out machine operator maintenance	<p>5.1 Follow equipment lock-out procedures according to workplace health and safety requirements and workplace procedures</p> <p>5.2 Conduct visual inspection and fault-finding procedures according to manufacturers' recommendations and workplace procedures</p> <p>5.3 Conduct routine operational servicing to maintain optimum operational performance of equipment</p> <p>5.4 Diagnose faults, malfunctions or problems with equipment, and report according to workplace procedures</p> <p>5.5 Clean and store equipment, attachments and other ancillary equipment</p>
6. Complete work-related reports	<p>6.1 Complete reporting requirements related to site, incidents and hazards, personal reporting, check-in, production, machine maintenance and block completion.</p> <p>6.2 Submit reports to appropriate personnel according to workplace</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Read and understand production plans and workplace safety and environmental management plans in a forest harvesting environment Read and understand standard operating procedures and/or manufacturer instructions for the operation of forest harvesting machinery
Writing	<ul style="list-style-type: none"> Record operation, production and machine maintenance on paper-based or electronic media
Oral communication	<ul style="list-style-type: none"> Interact verbally and non-verbally using agreed systems and processes to communicate with others on site to ensure safe and effective machine operations Use technical language directly relevant to role
Numeracy	<ul style="list-style-type: none"> Interpret gauges relevant to safe operation of harvesting machinery Estimate dimensions and angles of a stable log stack Estimate weight of logs to determine loading requirements and compliance to machine specifications

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPHAR3234 Conduct mechanical processor operations	FWPHAR3210 Conduct mechanical processor operations	Updated Application Statement Minor updates to Performance Criteria	Equivalent

		Reworded Foundation Skills and Assessment Conditions	
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Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPHAR3234 Conduct mechanical processor operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has planned, prepared and safely and effectively operated a wheeled or tracked mechanical processor to process one batch of trees and to segregate and stack logs in a commercial forest harvesting environment.

In undertaking this activity, the individual has:

- determined job requirements from work order or instruction
- complied with workplace health and safety requirements, including use of personal protective equipment (PPE) and machine guards, for the task
- operated mechanical processor safely and effectively within equipment capabilities and limitations
- adjusted operating techniques in response to site conditions
- maintained log stacks, with consideration given to providing for anticipated stock levels, stock rotation requirements, size, segregation of lengths, species, grades
- visually assessed delivered logs for characteristics including species type, diameter, length and grade, and directed to additional locations for further processing and stacking
- monitored trees for unexpected characteristics that may cause danger and referred to appropriate personnel
- established communication with other personnel and monitored their movements to maintain safety on site
- conducted pre-operational and post-operational checks, routine cleaning and operational servicing of equipment.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- information and requirements contained in a work order, production plan and site safety and environmental management plans

- health and operational hazards or risks related to mechanical processor operations, and factors that can change or introduce new hazards
- industry-accepted work health and safety risk control measures, legal obligations of the current Work Health and Safety Acts or Occupational Health and Safety Acts and regulations, and requirements of industry standards and/or codes of practice for mechanical processor operations as outlined in workplace procedures and production plan
- the types and correct positioning of industry-accepted warning signs, vehicle-to-vehicle communication systems and procedures to maintain communication and work safety during mechanical processor operations
- required emergency response procedures, including firefighting resources and emergency response
- potential impacts of mechanical processor operations on on-site and off-site environmental values, including cultural heritage, flora, fauna, ground compaction, water contamination and soil erosion
- industry-accepted environmental control measures, environmental restrictions, legal obligations of the current Environment Protection Acts and regulations and requirements of industry standards and/or codes of practice for mechanical processor operations as outlined in workplace procedures and production plan
- tree shapes, species, quality characteristics and log defects particular to the site and production system
- effects of weather on ground conditions
- effects of slope and terrain conditions on machine stability and operation
- operational procedures and checks, including start-up and shutdown procedures
- operating and maintaining machine, attachments and ancillary equipment in line with manufacturer instructions
- industry-accepted reporting requirements regarding site, incidents and hazards, personal reporting, check-in, production, machine maintenance and block completion.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest or wood products work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - log landing site
 - wheeled or tracked mechanical processor
 - log sheets for recording measurement and operation
 - PPE suited for operation of a mechanical processor
- relationships:
 - on site personnel for individual to interact with and monitor their movements
- specifications:

- workplace health, safety and environmental policies and procedures applicable to mechanical processor operations
- workplace policies and procedures for operating a mechanical processor
- workplace emergency procedure.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPHAR3235 Conduct mechanically assisted tree falling operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to use machinery, winches and cables to push or pull trees away from their natural direction of fall.

The unit applies to individuals who operate mechanically assisted tree falling equipment as part of forestry operations.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Harvesting and Haulage (HAR)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for tree pushing or pulling	1.1 Determine job requirements from work order or instruction and, where required, seek clarification from appropriate personnel 1.2 Confirm safety and environmental requirements, including use of personal protective equipment (PPE), for the task according to workplace procedures 1.3 Identify, assess and take actions to mitigate risks and hazards

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>associated with mechanically assisted tree falling operations</p> <p>1.4 Identify emergency plan procedures to follow in the event of an incident or accident</p> <p>1.5 Select appropriate cutting equipment and pushing or pulling equipment for work, and check for operational effectiveness</p> <p>1.6 Consult with appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.7 Identify type and quantity of trees to be pushed or pulled, and assess for safe working conditions</p> <p>1.8 Plan tree pushing or pulling activities according to workplace procedures and environmental requirements</p>
2. Assess and plan tree pushing or pulling	<p>2.1 Assess tree location and stability for conditions likely to affect safety of tree pushing or pulling activities</p> <p>2.2 Visually assess tree for defects, grade and recovery status</p> <p>2.3 Mark trees too dangerous to be felled safely and refer to appropriate personnel</p> <p>2.4 Apply manual or mechanical techniques to clear growth around tree</p> <p>2.5 Plan cutting sequence to control direction of the fall and minimise damage to the tree, hang-ups and surrounding environment</p> <p>2.6 Plan and clear an escape route</p> <p>2.7 Establish and maintain communication with other personnel to ensure safety</p>
3. Push or pull trees	<p>3.1 Perform pre-start-up checks on equipment according to workplace procedures</p> <p>3.2 Monitor movement and whereabouts of other personnel to ensure safety</p> <p>3.3 Remove and clear leaders according to tree pushing or pulling plan</p> <p>3.4 Identify and diagnose unexpected tree characteristics, and review planned actions</p> <p>3.5 Check winches, cables and machinery for correct tension and position and make scarf cut according to planned falling direction and safety requirements</p> <p>3.6 Make appropriate cuts below scarf cut to assist fall angle of tree</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>3.7 Use planned escape route once tree begins to fall</p> <p>3.8 Monitor movement of tree on ground until stable, and immediately flag and clear trees that hang up</p> <p>3.9 Clear work site of refuse created by tree falling following workplace environmental care procedures</p> <p>3.10 Record and report tree pushing or pulling operations according to workplace procedures</p>
4. Conduct operator maintenance	<p>4.1 Follow equipment lock-out procedures according to workplace procedures and manufacturer specifications</p> <p>4.2 Inspect condition of tools and equipment on completion of felling activities</p> <p>4.3 Identify blunt or damaged chainsaw chain</p> <p>4.4 Remove, sharpen, maintain, adjust and refit chainsaw chain and other components according to manufacturer recommendations</p> <p>4.5 Assess and adjust chainsaw setup according to workplace procedures</p> <p>4.6 Check and service tree pushing or pulling equipment according to workplace procedures</p> <p>4.7 Record and report equipment maintenance activities according to workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Read safety plans and instructions relevant to mechanically assisted tree falling operation
Writing	<ul style="list-style-type: none"> Complete paper-based or electronic forms to record production and maintenance information
Oral communication	<ul style="list-style-type: none"> Ask questions to clarify work instructions

Skill	Description
Numeracy	<ul style="list-style-type: none"> Estimate height and distance between trees

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
WPHAR3235 Conduct mechanically assisted tree falling operations	FWPHAR3213 Conduct mechanically assisted tree falling operations	Minor updates to Performance Criteria Updated Knowledge Evidence for alignment Updated Foundation Skills and Assessment Conditions	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPHAR3235 Conduct mechanically assisted tree falling operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has used machinery, winches and cables to push or pull one tree away from the natural direction of fall.

In undertaking this activity, the individual has:

- prepared, planned and carried out mechanically assisted pushing and pulling operations to fall one tree
- assessed site and tree conditions and planned to work safely
- complied with safety and environmental requirements including use of personal protective equipment (PPE)
- followed work plan for conducting mechanically assisted tree falling operations
- used cutting equipment safely, including saws and chainsaws, along with procedures for chainsaw lock-out
- directed pulling or pushing equipment safely, including excavators, winches and grabs
- planned cutting sequence to control the direction that tree falls and minimise damage to tree, equipment and surrounding environment
- established communication with other personnel and monitored their movements to maintain safety on site
- used and maintained pushing and pulling tools, machinery and equipment
- conducted operator maintenance on a chainsaw.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- commonwealth, state or territory legislation, regulations, standards, codes of practice and established safe practices relevant to the full range of processes for conducting mechanically assisted tree falling operations

- environmental protection requirements, including the safe disposal of waste material and the cleaning of plant, tools and equipment
- risks and hazards associated with mechanically assisted tree falling operations
- characteristics of trees and timber defects
- workplace standards, requirements, policies and procedures for conducting mechanically assisted tree falling operations
- tree pushing or pulling methods
- chainsaw operation, cutting sequences and safety
- procedures for condition assessment of chainsaw chain and tree pushing or pulling equipment
- types of tools and equipment used in mechanically assisted tree falling operations, and procedures for their safe use, operation and maintenance
- procedures for recording and reporting workplace records and information
- workplace health and safety requirements, fire protocols and emergency evacuation procedures.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest or wood products work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - site with trees that can be felled away from their natural direction of fall
 - chainsaws, machinery or winches and cables to push or pull trees, and consumable materials used in mechanically assisted tree falling operations
 - PPE required for conducting mechanically assisted tree falling operations
- relationships
 - work team and other personnel in proximity to work site
- specifications:
 - workplace health, safety and environmental policies and procedures applicable to conducting mechanically assisted tree falling operations
 - workplace procedures related to conducting mechanically assisted tree falling operations
 - manufacturer manual for chainsaw.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWP HAR4206 Implement environmental management practices in timber harvesting operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to manage timber harvesting operations to minimise environmental impact and meet the environmental management requirements specified in the relevant harvest plan.

The unit applies to individuals whose work involves applying environmental management practices to forest harvesting operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Harvesting and Haulage (HAR)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Identify environmental management requirements in forest	1.1 Review harvest plan to identify features of the environment that require protection and required environmental protection measures

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
harvest plans	<p>1.2 Identify resources required to implement the environmental protection measures specified in the harvest plan</p> <p>1.3 Recognise legislative, regulatory and business consequences of non-compliance with environmental management requirements in harvest plans</p> <p>1.4 Confirm environmental management indicators for the forest harvesting operation</p> <p>1.5 Confirm methods used to monitor compliance with and achievement of the environmental management indicators</p>
2. Apply environmental management requirements for a forest harvesting operation	<p>2.1 Communicate environmental management requirements and strategies to work team involved in harvesting operation prior to starting work</p> <p>2.2 Manage harvesting operation to comply with environmental management indicators, workplace procedures and harvest plan requirements</p> <p>2.3 Identify non-compliances with environmental management indicators according to workplace procedures</p> <p>2.4 Rectify and report non-compliances with environmental management indicators according to workplace procedures</p> <p>2.5 Assess root cause of non-compliance and implement appropriate changes in work practices</p>
3. Monitor implementation of environmental management requirements for a forest harvesting operation	<p>3.1 Implement strategies for monitoring compliance with environmental management indicators</p> <p>3.2 Record performance against environmental management indicators for all harvesting stages, including pre-harvesting and post-harvesting, according to workplace and contractual requirements</p> <p>3.3 Report performance against environmental management indicators to appropriate stakeholders according to legislative and contractual requirements</p> <p>3.4 Analyse environmental management data from tree harvesting operations to assist with planning future harvesting operations</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret complex and unfamiliar regulatory and environmental information affecting harvest plans
Writing	<ul style="list-style-type: none"> Complete routine forms related to environmental management practices used in forest harvest operations
Oral communication	<ul style="list-style-type: none"> Use interactive communication techniques to communicate information on environmental management practices to forest harvest work teams Ask open and closed probe questions to confirm that work team members are aware of environmental management practices to be used in forest harvest operations
Numeracy	<ul style="list-style-type: none"> Perform routine calculations related to the collation and analysis of environmental management indicators for forest harvesting operations

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPHAR4206 Implement environmental management practices in timber harvesting operations	FWPCOT5209 Manage tree harvesting to minimise environmental impact	<p>New title</p> <p>New Elements and Performance Criteria</p> <p>New Performance Evidence and Knowledge Evidence</p> <p>Revised Assessment Conditions</p>	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWP HAR4206 Implement environmental management practices in timber harvesting operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has developed one management strategy for one timber harvesting operation to minimise environmental impact and meet the environmental management requirements specified in the relevant harvest plan.

In undertaking this activity, the individual has:

- reviewed the harvest plan to identify environmental assets, environmental indicators and environment protection measures
- identified resources required to implement the environmental protection measures specified in the harvest plan
- confirmed methods used to monitor compliance with and achievement of environmental management indicators
- communicated environmental management requirements and strategies to work team
- coordinated harvesting operation to comply with environmental management indicators, workplace procedures and harvest plan requirements
- monitored achievement of environmental management requirements and identified non-compliances with indicators
- recorded and reported performance against environmental management indicators.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- commonwealth, state, territory or local government regulations and codes of practice relevant to environmental management in harvest operations
- features of the environment that may require protection in harvesting operations:
 - adjacent properties

- physical structures
- environmentally sensitive sites
- waterways and riparian areas
- Indigenous and other culturally important sites
- archaeological sites
- soil
- endangered plant and animal species
- habitats
- environmental management strategies used in harvesting operations to minimise or avoid environmental damage associated with:
 - fuel storage
 - machine servicing
 - tree felling, log extraction and machinery operation
 - logging debris and slash
 - spread of weeds and pests
 - water runoff
 - road construction
 - disposal of waste material
 - cleaning plant, tools and equipment
- environmental management indicators:
 - water quality and quantity
 - soil condition
 - native flora and fauna protection
 - maintenance of culturally significant landscapes, natural or anthropogenic formations and constructions
- strategies for monitoring compliance with environmental management indicators:
 - field checks
 - documentation
- harvest plans:
 - purpose of harvest plans
 - format, content and use of plans
 - method of identifying environmental protection requirements in harvest plans
- types, purpose and ways of determining buffer zones, protected areas and erosion control measure.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:

- skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - harvest plan
 - a coupe for a harvesting operation
- specifications:
 - workplace policies and procedures for meeting the environmental management requirements of harvest plans.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPHAR4207 Conduct a wood volume and yield assessment

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to plan and implement a wood volume and yield assessment within a forest area.

The unit applies to individuals involved in conducting wood volume and yield assessment as part of forestry operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Harvesting and Haulage (HAR)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan wood volume and yield assessment	1.1 Determine required frequency and size of sample areas of assessment for particular forest area from inventory programs, budgets and workplace guidelines 1.2 Research methods to calculate wood volume and yield for the

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	location to be assessed 1.3 Select method and equipment required to calculate wood volume and yield with reference to the forest management plan 1.4 Monitor site environmental protection measures 1.5 Document plan to assess volume and wood yield
2. Implement wood volume and yield assessment	2.1 Negotiate schedule for the assessment with other forest personnel 2.2 Coordinate people, materials and equipment for the assessment 2.3 Obtain permits or licences required for the assessment 2.4 Direct personnel in data collection on wood volume and yield 2.5 Ensure compliance with quality and workplace health and safety procedures throughout the assessment 2.6 Collate and analyse data according to workplace procedures 2.7 Record and report wood volume and yield assessment results
3. Review wood volume and yield assessment	3.1 Review assessment procedures for potential improvements 3.2 Report outcomes of review to appropriate personnel

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extract information from industry guides and standard references
Writing	<ul style="list-style-type: none"> Complete workplace forms Annotate site plans
Oral communication	<ul style="list-style-type: none"> Ask open and closed questions and use active listening techniques to clarify contents of work orders
Numeracy	<ul style="list-style-type: none"> Interpret graphical and statistical information on wood volume and yield

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPHAR4207 Conduct a wood volume and yield assessment	FWPFGM4206 Conduct a wood volume and yield assessment	Updated Elements and Performance Criteria Revised Performance Evidence and Assessment Conditions	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPHAR4207 Conduct a wood volume and yield assessment

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has, for a sample area, planned, implemented, reported on and reviewed one wood volume and yield assessment that includes:

- timber volume by class sizes
- timber quality
- timber damage
- form and rates of growth.

In undertaking this activity, the individual has:

- determined the sample area for the assessment
- documented a plan to assess wood volume and yield for the sample area
- negotiated a schedule for the assessment with other forest personnel
- coordinated personnel and resources for the assessment and obtained permits
- directed data collection activities
- ensured compliance with quality, workplace health and safety and environment protection procedures throughout the assessment
- accurately and safely calculated wood volume and yield from the sample area
- recorded and reported wood volume and yield assessment results
- reviewed assessment procedures for potential improvements.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- workplace policies and procedures for conducting a wood volume and yield assessment
- volumes and yields associated with different species that includes:
 - quantity (gross volume) of timber per hectare

- estimated yield (net volume) of useable timber per hectare
- assessment techniques and methods for measuring and calculating wood volume and yield equipment for conducting a wood volume and yield assessment.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - an area of forest in which to conduct a wood volume and yield assessment
 - equipment for conducting a wood volume and yield assessment
- specifications:
 - work instructions for conducting a wood volume and yield assessment
 - workplace safety and environmental policies and procedures applicable to forestry operations
 - workplace procedures for conducting a wood volume and yield assessment.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPHAR4208 Plan for and coordinate fire salvage operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to plan and coordinate a salvage operation to recover commercially viable trees, immediately after fire in a forest or farm forest setting, before degradation and/or insect infestation occurs.

The unit applies to individuals involved in planning and supervising fire salvage operations as part of forestry operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Harvesting and Haulage (HAR)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for salvage operations	1.1 Determine job requirements from work order or instruction and, where required, seek clarification from appropriate personnel 1.2 Confirm workplace health and safety procedures, including the use of personal protective equipment (PPE), lock-out procedures and safe

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>manual handling techniques</p> <p>1.3 Confirm regulations, prescriptions and standards relevant to fire salvage operations</p> <p>1.4 Identify, assess and take actions to mitigate risks and hazards associated with salvage operations</p> <p>1.5 Identify workplace environmental protection procedures for protecting natural and cultural assets, minimising and disposing of waste material, and cleaning plant, tools and equipment</p> <p>1.6 Identify emergency plan procedures to follow in the event of an emergency</p> <p>1.7 Contact local authority and obtain salvage approval according to workplace procedures</p> <p>1.8 Select appropriate equipment for work requirements and check for operational effectiveness according to manufacturer recommendations</p>
2. Plan salvage operations	<p>2.1 Determine location, land ownings and boundaries of salvage area</p> <p>2.2 Assess site characteristics and environmental conditions according to workplace procedures</p> <p>2.3 Plan site preparation, access and operational activities</p> <p>2.4 Plan and coordinate implementation of environmental protection practices according to workplace procedures</p> <p>2.5 Assess and report on extent of fire damage and suitability of trees for recovery</p> <p>2.6 Estimate and report on commercial viability of tree harvest and extraction</p> <p>2.7 Consult with key stakeholders, including local community and land owners, on proposed fire salvage operations</p> <p>2.8 Produce salvage plan, and forward to appropriate personnel</p>
3. Coordinate salvage operations	<p>3.1 Communicate plans for clearing, trimming and felling operations to harvesting personnel</p> <p>3.2 Direct preparation of access tracks according to salvage plan and workplace procedures</p> <p>3.3 Direct and monitor clearing of burnt scrub and dangerous limbs according to salvage plan and workplace procedures</p> <p>3.4 Monitor and control location and movement of personnel on work site according to workplace health and safety requirements and</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	workplace procedures 3.5 Assess location and stability of trees for conditions likely to affect safety of felling activities 3.6 Direct felling of designated trees according to salvage plan and safety requirements 3.7 Monitor use of mechanical equipment according to safety and environmental requirements 3.8 Coordinate haulage of logs from site according to workplace procedures 3.9 Coordinate post-salvage landscape works to allow regeneration according to salvage plan and workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Read complex documents such as fire salvage procedures and salvage approval documents
Writing	<ul style="list-style-type: none"> Prepare detailed written reports on fire damage and commercial viability of tree harvest
Oral communication	<ul style="list-style-type: none"> Use open and closed questions and active listening to clarify work instructions
Numeracy	<ul style="list-style-type: none"> Estimate land areas and volume and quantity of trees

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPHAR4208 Plan for and coordinate	FWPHAR4204 Plan and coordinate fire	Revised title Revised Elements and	Equivalent

fire salvage operations	salvage operations	Performance Criteria Updated Foundation Skills Revised Performance Evidence and Knowledge Evidence Revised Assessment Conditions	
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Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWP HAR4208 Plan for and coordinate fire salvage operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has planned and coordinated one fire salvage operation.

In undertaking this activity, the individual has:

- produced a salvage plan
- confirmed workplace health and safety procedures, including the use of personal protective equipment (PPE), lock-out procedures and safe manual handling techniques
- confirmed regulations, prescriptions and standards relevant to fire salvage operations
- consulted with key stakeholders, including local community and land owners, on the proposed fire salvage operation
- coordinated the salvage operation
- coordinated haulage of logs from site according to workplace procedures
- coordinated post-salvage landscape works to allow regeneration according to salvage plan and workplace procedures.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- regulations, prescriptions and standards relevant to fire salvage operations environmental protection practices for forest and farm forest settings affected by fire:
 - safe disposal of waste material
 - cleaning of plant, tools and equipment
 - recycling and re-use of timber with defects
 - minimising the impact of mechanical equipment on the environment
 - leaving the site in a safe and tidy condition to allow for regeneration

- sustainable forest management, at a basic level of understanding, and the role of salvaging fire affected trees in the recovery of fire damaged forests
- key impacts of fire on a forest site, and effects on fire salvage operations:
 - characteristics of burnt trees
 - how fire has affected stability of trees
 - what fire has done to underlying scrub
 - how safe the forest is to enter
 - environmental hazards and risks to worker safety
- key processes in fire salvage operations:
 - planning and coordinating salvage operations
 - established chain of command for communication of information and instruction
 - methods to assess fire damaged trees
 - harvesting and extraction techniques for fire damaged trees
- types of equipment for trimming and felling fire damaged trees; their purpose, features and operation
- workplace standards, policies and procedures for the assessment, planning and coordination of fire salvage operations:
 - workplace health and safety specific to harvesting trees in fire damaged forests
 - environmental protection
 - recording and reporting on fire damage and commercial viability of tree harvest
 - documenting fire salvage plans.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - a forestry site for salvage operations
 - PPE, personnel, equipment and materials required for fire salvage operations
- specifications:
 - workplace policies and procedures on fire salvage operations
 - workplace safety and environmental policies and procedures applicable to fire salvage operations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPHAR4209 Plan for and coordinate forest harvesting operations

Modification History

Release	Comments
Release 2	This version released with FWP Forest and Wood Products Training Package Version 8.0.
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to plan and coordinate harvesting operations according to a harvesting plan for an established coupe.

The unit applies to individuals involved in planning and supervising forest harvesting operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Harvesting and Haulage (HAR)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan harvesting	1.1 Review harvesting plan and, where required, seek clarification

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
operations	<p>from appropriate personnel</p> <p>1.2 Confirm workplace health and safety procedures, including the use of personal protective equipment (PPE), lock-out procedures and safe use of plant and equipment</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with harvesting operations</p> <p>1.4 Identify workplace environmental protection practices and/or procedures for protecting natural and cultural assets, minimising and disposing of waste material, fire prevention and control, and cleaning plant and equipment</p> <p>1.5 Calculate size of coupe and available timber according to workplace procedures</p> <p>1.6 Source and confirm availability of personnel, plant and equipment required for harvesting operation</p> <p>1.7 Establish work plans and schedules for employees and inform them of coupe location and harvesting date</p> <p>1.8 Apply for planning permits</p> <p>1.9 Produce harvesting schedule according to harvesting plan and workplace procedures</p>
2. Coordinate harvesting operations	<p>2.1 Confirm forest type, topography, tree species and weather conditions and associated restrictions</p> <p>2.2 Confirm chain of command for communicating instructions and information</p> <p>2.3 Calculate gross area of coupe and determine nett area to be harvested according to harvesting plan and workplace procedures</p> <p>2.4 Calculate and record volume of logs to be harvested according to harvesting plan and workplace procedures</p> <p>2.5 Manage and monitor harvesting activities according to harvesting plan and workplace procedures</p> <p>2.6 Monitor compliance with workplace health and safety, environmental protection and operating practices and/or procedures, and harvest plan requirements</p> <p>2.7 Contract cartage operators and set cartage routes according to harvesting plan and workplace procedures</p> <p>2.8 Record outcomes of harvesting activities according to workplace</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	procedures
3. Review harvesting operations	3.1 Review harvesting operations, evaluate problems and report to appropriate personnel according to workplace procedures 3.2 Use information gathered from review in planning future harvesting operations

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret complex and unfamiliar regulatory and environmental information affecting harvest plans
Writing	<ul style="list-style-type: none"> Complete complex documents and forms
Oral communication	<ul style="list-style-type: none"> Ask open and closed questions and use active listening skills to clarify work requirements
Numeracy	<ul style="list-style-type: none"> Perform complex calculations involving gross and nett spatial areas and volumes of extraction

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPHAR4209 Plan for and coordinate forest harvesting operations Release 2	FWPHAR4209 Plan for and coordinate forest harvesting operations Release 1	Minor edits to clarify performance criteria	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWP HAR4209 Plan for and coordinate forest harvesting operations

Modification History

Release	Comments
Release 2	This version released with FWP Forest and Wood Products Training Package Version 8.0.
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has planned and coordinated harvesting operations according to a harvesting plan for one established coupe.

In performing this task, the individual has:

- confirmed workplace health and safety procedures, including the use of personal protective equipment (PPE), lock-out procedures and safe use of plant and equipment
- confirmed chain of command for communicating instructions and information
- reviewed harvesting plan, produced harvesting schedule and identified all personnel, equipment and materials required for harvesting operation
- coordinated and monitored the implementation of the harvesting plan for the coupe
- monitored compliance with environmental protection, health and safety and workplace procedures and harvest plan requirements
- reviewed harvesting operations, evaluated problems and reported to appropriate personnel
- used information gathered from review of harvesting operation in planning future harvesting operations.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- planning permit application and approval processes
- harvesting and extraction methods
- harvesting volume calculations
- key features of operational issues for harvesting coupes, including:

- site preparation
- operation of landings and snig tracks
- cartage operations
- environmental hazards and protection measures, including:
 - minimising temporary, short-term, long-term and permanent damage to natural vegetation and landscape
 - soil and water protection
 - safe disposal of waste material
 - cleaning of plant, tools and equipment
- workplace health and safety hazards, risks and control measures
- fire protection requirements
- wet weather operations and restrictions
- types, features, purpose and operation of equipment used for harvest operation
- personnel used for harvest operations
- workplace policies and procedures for harvest operations, including:
 - documenting harvest work plans
 - communication reporting lines
- recording and reporting harvest plan implementation issues.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - a coupe for a harvesting operation
- specifications:
 - harvest plan
 - workplace policies and procedures for implementing harvest plans
 - workplace health and safety and environmental protection policies and/or procedures applicable to forestry operations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPHAR4210 Plan for and coordinate log recovery (hook tender)

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to coordinate operational planning and setting up of cable log recovery systems as part of forestry operations, including coordinating and supervising rigging slingers, yarders, choker setters and chasers.

The unit applies to individuals whose job role includes coordinating the operational planning and setting up of cable log recovery systems.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Harvesting and Haulage (HAR)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for hook tender operations	1.1 Determine job requirements from work order or instruction, and where required seek clarification from appropriate personnel

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.2 Confirm safety and environmental requirements, including use of personal protective equipment, for the task according to workplace procedures</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with cable operation activities</p> <p>1.4 Identify emergency and evacuation procedures to follow in the event of an incident or accident</p> <p>1.5 Confirm chain of command for communication of information and instructions and consult with appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.6 Identify required type and quantity of cable recovery equipment, and assess for safety and operational effectiveness in line with manufacturer recommendations</p> <p>1.7 Plan cable operation activities according to workplace procedures</p>
2. Plan cable system layout	<p>2.1 Obtain and evaluate information to plan cable system layout and inspect site for hazards and factors affecting harvesting operations</p> <p>2.2 Provide personnel with information about landing location and size, hauling boundaries, access routes and construction requirements</p> <p>2.3 Consider code of practice, site topography and minimising system design additions, and select cable system type to optimise log extraction rate</p> <p>2.4 Identify general requirements for anchor points, backline and intermediate supports, and provide instruction to fallers</p>
3. Coordinate yarder and cable system setup	<p>3.1 Select rope sizes for lines according to code of practice, yarder capacity, system design and manufacturer recommendations</p> <p>3.2 Select components and rigging to meet code of practice requirements, system design and manufacturer recommendations</p> <p>3.3 Inspect and install components and lines</p> <p>3.4 Direct and assist personnel to lay out lines, select anchors and position mobile backstops</p> <p>3.5 Assess felled trees for location, size and obstructions</p> <p>3.6 Plan recovery extraction sequence to minimise line shifts, log and environmental damage</p> <p>3.7 Select support trees and provide directions for rigging</p> <p>3.8 Check unloaded and loaded system performance, and calculate</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	loads to ensure they are within system and equipment capacity 3.9 Monitor operations and change and communicate procedures or system design to improve safety and payload efficiency
4. Coordinate rigging of towers, trees and yarders	4.1 Check cable system plans and determine operational requirements for tower and support trees 4.2 Ensure rigging of towers and trees complies with code of practice and manufacturer recommendations 4.3 Check and select support trees to be rigged, guylines and anchor points 4.4 Select rigging and rope sizes to meet load 4.5 Provide directions to check components for wear, failure or missing parts prior to rigging 4.6 Identify faults and take corrective action 4.7 Coordinate rigging on machine towers to prepare, assemble and fit operational lines, prior to raising according to system design 4.8 Identify climbing and pass line equipment 4.9 Coordinate guyline positioning and rigging within location angle requirements to provide minimal difference in length and tension 4.10 Check system components for size, safe working load, layout, position, safety straps, joins, lead angles and operating angles
5. Coordinate line shifts and rigging modifications	5.1 Anticipate line shifts and prepare required rigging in advance 5.2 Diagnose limitations of system design or positioning, and plan modifications according to code of practice and manufacturer recommendations 5.3 Monitor operations, and as required change and communicate procedures to improve safety and payload efficiency 5.4 Locate new support trees, anchor points and mobile tail anchor position 5.5 Assign riggers to prepare and rig according to system requirements 5.6 Record and report production processes and equipment faults according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Read and comprehend familiar workplace documents, including workplace health and safety procedures and operational manuals
Writing	<ul style="list-style-type: none"> Complete workplace forms and reports on breakout process and equipment faults
Oral communication	<ul style="list-style-type: none"> Ask questions and actively listen to clarify contents of work plans Provide clear, unambiguous rigging instructions to site personnel
Numeracy	<ul style="list-style-type: none"> Complete routine calculations to optimise log extraction rate for number and size of felled trees Identify and interpret numerical requirements within codes of practice and manufacturer recommendations Complete calculations involving height, length, weight, tension, angles and loads to determine efficient and safe operational capacity of rigging Identify boundaries on maps and plans, and calculate spatial requirements for yarder and rigging operations

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPHAR4210 Plan for and coordinate log recovery (hook tender)	FWPHAR4202 Coordinate log recovery (hook tender)	New title Updated Application Statement Minor revisions to Elements, Performance Criteria and Knowledge Evidence Simplified Performance Evidence Updated Assessment Conditions	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWP HAR4210 Plan for and coordinate log recovery (hook tender)

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has coordinated the operational planning and setting up of one cable log recovery system.

In undertaking this activity, the individual has:

- planned and coordinated the establishment of one of the following cable recovery systems:
 - high lead (no skyline)
 - standing skyline
 - running skyline
- complied with safety and environmental requirements, including use of personal protective equipment (PPE)
- confirmed chain of command for communication of information and instructions and consulted with appropriate personnel to ensure that work is coordinated effectively with others in the workplace
- coordinated rigging of towers, trees and yarders according to workplace policies and procedures and related industry codes of practice for log recovery operations
- coordinated line shifts and rigging modifications according to workplace policies and procedures and related industry codes of practice for log recovery operations
- monitored operations and as required changed and communicated procedures to improve safety and payload efficiency
- recorded and reported production processes and equipment faults according to workplace procedures.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- content and application of applicable industry code of practice for log recovery activities
- key features of these varying environmental conditions and effects on the layout, setup and operation of cable systems for log recovery:
 - fallen trees
 - general forest lean
 - ground growth
 - ground hazards and obstacles
 - ground slope
 - density of trees
 - wet and adverse weather conditions
 - wind speed and direction
- environmental protection practices for cable logging operations:
 - safe disposal of waste material
 - cleaning of plant, tools and equipment
 - soil and water protection
- industry standard lengths for logs
- operational planning processes for:
 - designing and coordinating the establishment of cable recovery systems
 - determining the most time and cost effective cable system for log recovery
- techniques used in cable log recovery:
 - log extraction methods
 - rigging techniques
- typical industry chain of command for communication of information and instruction
- cable logging systems and rigging components
- system design additions:
 - blind leads
 - bridling
 - multispans
- yarders and anchors:
 - anchors
 - block stumps
 - mobile backstops
 - tailholds
- lines:
 - extensions
 - guylines
 - haulback lines
 - mainlines
 - skylines
 - strawlines

- towers and support trees
- workplace procedures specific to cable log recovery coordination:
 - workplace health and safety, with particular emphasis on use of equipment
 - communication reporting lines during setup and operation of cable systems for log recovery
 - recording and reporting production process and equipment faults.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in an active cable logging operation or an environment that accurately reflects workplace conditions
- resources, equipment and materials:
 - coupe with logs for recovery
 - cable system and associated rigging equipment for log recovery yarder and anchors
 - PPE suitable for log recovery coordination
- relationships:
 - a team of rigging slingers, yarders, choker setters and chasers with whom the individual can interact
- specifications:
 - workplace safety and environmental policies and procedures applicable to cable logging operations
 - workplace procedures for cable logging operations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPNSY2001 Collect tree seeds

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to collect, separate, treat and package native or non-native tree seed as part of forestry operations.

The unit applies to individuals who are involved in collecting tree seeds as part of forestry operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Forest Nursery Production (NSY)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to collect tree seed	1.1 Determine job requirements from work order or instruction, and where required seek clarification from appropriate personnel 1.2 Confirm safety and environmental requirements, including use of personal protective equipment, for the task according to workplace

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>procedures</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with seed collection operations</p> <p>1.4 Identify emergency and evacuation procedures to follow in the event of an incident or accident</p> <p>1.5 Consult with appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.6 Select tools, equipment, machinery and materials for seed collection, separation, treatment and packaging and check for serviceability according to workplace procedures</p> <p>1.7 Identify potential locations for collecting required seeds, and obtain approval from appropriate personnel</p>
2. Collect and assess tree seed	<p>2.1 Identify plant species and assess condition visually to determine healthy seeds</p> <p>2.2 Select and use appropriate seed collection method, maintaining genetic diversity and preventing damage to parent plant</p> <p>2.3 Place seed in clean containers and label accurately according to workplace procedures</p>
3. Clean and store tree seed	<p>3.1 Separate, weigh and treat seed to prevent deterioration according to species requirements</p> <p>3.2 Package seed for storage using appropriate technique</p> <p>3.3 Control environmental factors when packing collected seeds</p> <p>3.4 Record details of seed species, weight and place of origin</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extract information from industry guides and standard references on seed collection and treatment techniques

Skill	Description
Writing	<ul style="list-style-type: none"> Complete forms detailing results of seed collection operations Label collected seed
Oral communication	<ul style="list-style-type: none"> Ask open and closed questions and use active listening techniques to clarify contents of work orders Provide oral reports on selection of seed collection operations
Numeracy	<ul style="list-style-type: none"> Perform routine measurements of seed weights and quantities

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPNSY2001 Collect tree seeds	FWPFGM2201 Collect seed	Reworded title Minor change to Application Statement Reworded Elements and Performance Criteria Minor update to Knowledge Evidence Updated Foundation Skills and Assessment Conditions	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPNSY2001 Collect tree seeds

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has collected, assessed, cleaned and stored one batch of seeds for one species of tree.

In undertaking this activity, the individual has:

- identified the location and obtained appropriate approvals for the collection of tree seeds
- collected tree seed from plants and planted areas using the appropriate method selected from:
 - climbing
 - shaking
 - shooting
 - ground collection
- used the appropriate separation methods selected from:
 - hand selection
 - wind separation/winnowing
 - sieving
 - vibrating
 - flotation
 - drying
 - husk crumbling
- packaged tree seed for storage using appropriate technique
- treated collected tree seed to prevent deterioration using methods selected from:
 - heat
 - mechanical
 - chemical
- controlled the following environmental factors when packaging collected tree seeds:
 - temperature
 - light

- moisture
- recorded details of tree seed species, weight and place of origin
- complied with workplace safety procedures, including the use of personal protective equipment (PPE).

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- collection techniques according to health of parent plant:
 - hand picking
 - careful and selective pruning
- common separation methods used to treat and weigh seed:
 - hand selection
 - wind separation/winnowing
 - sieving
 - vibrating
 - flotation
 - drying
 - husk crumbling
- seed treatment and packaging processes, including storage requirements for different seed species
- types of information recorded for seed collection:
 - time and date of harvest
 - time and date of receipt
 - weight
 - seed origin
- common pests and diseases that infect seed species, and visual characteristics
- seed treatment methods to prevent deterioration:
 - heat
 - mechanical
 - chemical
- packaging and storage techniques for seed collection:
 - vacuum sealing
 - use of inert atmospheres: nitrogen and carbon dioxide
- controls for the packing environment:
 - temperature
 - light
 - moisture
- environmental protection practices for forest environment setting:
 - the safe disposal of waste material

- returning the environment to its original or near to original condition on completion of activity
- procedures for minimising environmental impact
- safe use, handling, storage and transport of chemicals
- workplace procedures specific to collecting seed:
 - work health and safety, with particular emphasis on use of PPE and handling hazardous substances
 - communication reporting lines
 - recording and reporting seed collection information.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest or wood products work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - site for tree seed collection, separation, treatment and packaging
 - tools, machinery, equipment and materials for tree seed collection, separation, treatment and packaging
 - PPE suitable for seed collection, separation, treatment and packaging
- specifications:
 - workplace health, safety and environmental policies and procedures applicable to seed collection, separation, treatment and packaging
 - workplace procedures for seed collection, separation, treatment and packaging.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPNSY2002 Cut, sort and set cuttings

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to cut, sort and set cuttings as part of forestry operations.

The unit applies to individuals who cut, sort and set cuttings as part of forestry operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Forest Nursery Production (NSY)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for cutting	1.1 Determine job requirements from work order or instruction, and where required seek clarification from appropriate personnel 1.2 Confirm safety and environmental requirements, including use of personal protective equipment, for the task according to workplace procedures

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with cutting, sorting and setting operations</p> <p>1.4 Identify emergency and evacuation procedures to follow in the event of an incident or accident</p> <p>1.5 Consult with appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.6 Select tools, equipment and materials for cutting, sorting and setting operations, and check for serviceability according to workplace procedures</p> <p>1.7 Clear and clean work area to prevent contamination of plants</p>
2. Select cuttings for setting	<p>2.1 Use equipment according to manufacturer instructions and workplace procedures</p> <p>2.2 Prepare parent plant and take cutting using method appropriate to species</p> <p>2.3 Assess cuttings visually, select and condition for propagation to maintain maximum viability appropriate to species requirements</p> <p>2.4 Dispose of discarded cutting material according to workplace and environment protection practices</p>
3. Prepare growing site and set cuttings	<p>3.1 Prepare growing environment and weed retardants according to work order, and workplace procedures and environment requirements</p> <p>3.2 Set cuttings in growing environment using appropriate tools and equipment</p> <p>3.3 Control pests and diseases as required according to workplace procedures</p> <p>3.4 Record and report cutting, sorting and setting production outcomes to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
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Skill	Description
Reading	<ul style="list-style-type: none"> Extract information from labels, industry guides and standard references on chemicals and other materials used in cutting, sorting and setting operations
Writing	<ul style="list-style-type: none"> Complete workplace forms Label cuttings
Oral communication	<ul style="list-style-type: none"> Ask open and closed questions and use active listening techniques to clarify contents of work orders Provide oral reports on cutting, sorting and setting operations
Numeracy	<ul style="list-style-type: none"> Measure volume and mixing ratios for weed retardants Estimate number and spacing of cuttings to be placed in growing medium

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPNSY2002 Cut, sort and set cuttings	FWPFGM2209 Cut, sort and set cuttings	<p>Updated Application Statement</p> <p>Reworded Elements and Performance Criteria</p> <p>Minor updates to Performance Evidence and Knowledge Evidence</p> <p>Updated Foundation Skills and Assessment Conditions</p>	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPNSY2002 Cut, sort and set cuttings

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that individual has cut, sorted and set one batch of cuttings for one species of forest tree.

In undertaking this activity, the individual has:

- selected and used cutting and conditioning techniques, prepared the growing environment and set cuttings according to the individual species to ensure maximum viability of plants
- complied with workplace safety standards, including use of personal protective equipment (PPE)
- disposed of discarded cuttings according to environmental protection practices
- competed workplace records for production outcomes.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- types, causes and consequences of spoilage and contamination of plant cuttings
- cleaning techniques, features and uses of cleaning products for plant preparation areas to avoid contamination of plants
- for the range of plants propagated by the workplace:
 - cutting techniques
 - pre-planting conditioning techniques, nutritional treatments and storage requirements to ensure maximum viability of plants
 - suitable growing environments to ensure maximum viability of plants
 - common pests, diseases and nutritional deficiencies and visual characteristics
- methods of remedial action for plants affected by pests and diseases:
 - removal of infected material
 - treatment of site with chemicals

- methods used to control weeds:
 - weed-mat
 - slatted benches
 - chemical solutions
- purpose, features and safe operation of equipment used to cut, sort and set cuttings
- environmental protection practices for disposing of plant cuttings:
 - recycling material where appropriate
 - sending pruned to landfill only where it cannot be recycled
- procedures for safe use, handling, storage and transport of chemicals
- workplace procedures specific to cutting, sorting and setting cuttings:
 - workplace health and safety, with particular emphasis on use of PPE and handling hazardous substances
 - communication reporting lines
 - recording and reporting site production outcomes.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest or wood products work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - commercial quantities of plants to be propagated
 - tools, machinery, equipment and materials used in cutting, sorting and setting operations, including motorised or electrically powered automated systems or manually operated equipment and tools, pest control chemicals and weed retardants
 - PPE suitable for cutting, sorting and setting operations
- specifications:
 - workplace health, safety and environmental policies and procedures applicable to cutting, sorting and setting operations
 - workplace procedures for cutting, sorting and setting cuttings
 - safety data sheets for chemicals or plain English equivalent documents.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPNSY2003 Follow quality procedures in forest nursery production

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to observe quality requirements in tree nursery production.

The unit applies to individuals working as arboriculture workers, farm forestry workers, forestry workers, nursery workers, plantation establishment workers, plantation forest officers and silviculturists who are involved in tree nursery operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Forest Nursery Production (NSY)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Assess quality of tree seedlings	1.1 Identify characteristics of quality tree seedlings according to industry standards and client requirements

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.2 Identify determinants of quality tree seedlings</p> <p>1.3 Assess visually the quality of seedlings according to workplace procedures</p> <p>1.4 Monitor and measure seedlings during growing season and implement remedial actions as required</p> <p>1.5 Record quality data in required format according to workplace procedures</p> <p>1.6 Comply with safety and environmental requirements, including use of personal protective equipment, for the task according to workplace procedures</p>
2. Assess own work against quality requirements for tree nursery production	<p>2.1 Identify tree nursery quality requirements according to workplace procedures</p> <p>2.2 Identify inputs and confirm compliance with quality requirements for tree nursery production</p> <p>2.3 Complete tree nursery related work activities individually or in a team according to workplace procedures and quality requirements</p> <p>2.4 Continuously check completed work for compliance with tree nursery quality requirements</p>
3. Report non-compliances with quality requirements for tree nursery production	<p>3.1 Check work area, materials, processes and product routinely to ensure compliance with tree nursery quality and workplace health and safety requirements</p> <p>3.2 Identify inputs, processes and outputs that do not comply with tree nursery quality requirements, and take corrective action within the level of responsibility to maintain quality standards</p> <p>3.3 Report out-of-specification tree nursery products or unacceptable performance to supervisor according to workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description

Skill	Description
Reading	<ul style="list-style-type: none"> Extract information from industry guides and standard references on quality procedures
Writing	<ul style="list-style-type: none"> Complete workplace forms
Oral communication	<ul style="list-style-type: none"> Ask open and closed questions and use active listening techniques to clarify contents of work orders
Numeracy	<ul style="list-style-type: none"> Apply basic arithmetic functions to complete quality documentation

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPNSY2003 Follow quality procedures in forest nursery production	Not applicable	The unit has been created to address a skill or task required by industry that is not covered by an existing unit	Newly created

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPNSY2003 Follow quality procedures in forest nursery production

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has followed forest nursery quality procedures in performing one workplace task.

In undertaking this activity, the individual has:

- visually assessed seedling quality according to workplace procedures, client requirements and industry standards
- accessed and applied workplace information on quality requirements for own work
- monitored and measured seedlings during the growing season and implemented remedial actions as required
- identified and responded to out-of-specification or unacceptable inputs and/or outputs, such as making adjustments within level of responsibility and/or reporting
- maintained quality of own work
- recorded quality data in required format according to workplace procedures
- complied with safety and environmental requirements, including use of personal protective equipment (PPE).

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- tree nursery quality policy, procedures and responsibilities
- tree nursery quality requirements:
 - inputs
 - seedlings
 - other outputs
 - processes
 - workplace health and safety

- environmental practices
- client requirements:
 - quality of the plant
 - delivery of the timelines
- determinants of seedling quality:
 - genetic quality of seed used in the nursery
 - physical growth of the seedling
- characteristics of quality tree seedlings:
 - healthy, vigorously growing and free of diseases
 - robust and woody single stem, free of deformities
 - stem is sturdy and has a large root collar diameter
 - crown is symmetrical and dense
 - root system that is free of deformities
 - dense root system with many fine, fibrous hairs with white root tips
 - ‘balance’ between shoot and root ratio
 - accustomed to short periods without water
 - accustomed to full sunlight
- techniques for visually assessing seedling quality
- sources of advice on quality requirements for own work
- methods and reasons for monitoring and measuring seedlings during the growing season
- remedial actions for responding to out-of-specification seedling
- monitoring, inspection and checking procedures relating to workplace quality requirements
- evidence of out-of-specification or unacceptable performance
- procedures for responding to out-of-specification or unacceptable performance
- responsibilities for reporting and recording quality information
- quality recording requirements.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - tree seedlings
 - PPE appropriate for work task
- specifications:
 - workplace quality requirements
 - industry standards for tree seedling production

- workplace health, safety and environmental policies and procedures applicable to tree nursery operations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPNSY2004 Prick out and transplant tree seedlings

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to prick out, transplant and pot on tree seedlings and rooted cuttings mainly for revegetation/regeneration production.

The unit applies to individuals who prick out and transplant tree seedlings in commercial and non-commercial tree production.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Forest Nursery Production (NSY)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for pricking out and transplanting tree seedlings	1.1 Determine job requirements from work order or instruction, and where required seek clarification from appropriate personnel 1.2 Confirm safety and environmental requirements, including use of personal protective equipment, for the task according to workplace

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>procedures</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with pricking out and transplanting operations</p> <p>1.4 Identify emergency and evacuation procedures to follow in the event of an incident or accident</p> <p>1.5 Consult with appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.6 Select tools, equipment and materials for pricking out and transplanting, and check for serviceability according to workplace procedures</p>
2. Prick out tree seedlings	<p>2.1 Extract seedlings from trays</p> <p>2.2 Apply pricking out techniques that avoid damage to seedlings</p> <p>2.3 Apply root positioning techniques that ensure that tap roots and lateral roots are not distorted during transfer</p> <p>2.4 Apply firming-in technique that maintains root orientation</p> <p>2.5 Water-in seedlings immediately after pricking out to ensure root contact with medium</p> <p>2.6 Water unused seedlings to maintain plant vitality</p>
3. Transplant and pot on tree seedlings and rooted cuttings	<p>3.1 Trim rooted systems to a suitable length, taking into account plant size, container size and root system characteristics</p> <p>3.2 Check tap roots and lateral roots to ensure they are not distorted when placing in containers or when transplanting into open beds</p> <p>3.3 Firm-in after transplanting, ensuring that root systems are not distorted</p> <p>3.4 Pot on transplanted pot at appropriate intervals according to species, growth rate and workplace procedures</p>
4. Clean up	<p>4.1 Check, clean and store tools and equipment after pricking out and transplanting operations</p> <p>4.2 Reuse, recycle or dispose of waste according to workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extract information from industry guides and standard references on pricking out and transplanting techniques
Writing	<ul style="list-style-type: none"> Complete workplace forms
Oral communication	<ul style="list-style-type: none"> Ask open and closed questions and use active listening techniques to clarify contents of work orders Provide oral reports on pricking out and transplanting operations
Numeracy	<ul style="list-style-type: none"> Count quantity of seedlings

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPNSY2004 Prick out and transplant tree seedlings	Not applicable	The unit has been created to address a skill or task required by industry that is not covered by an existing unit	Newly created

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPNSY2004 Prick out and transplant tree seedlings

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has:

- pricked out tree seedlings according to production requirements in a daily operation
- transplanted and potted on tree seedlings and rooted cuttings according to production requirements in a daily operation.

In undertaking this activity, the individual has:

- complied with safety and environmental requirements, including use of personal protective equipment (PPE)
- selected tools, equipment and materials for the task
- applied all required techniques in pricking out, transplanting and potting on tree seedlings and rooted cuttings
- checked, cleaned and stored tools and equipment after pricking out and transplanting operations
- reused, recycled or disposed of waste according to workplace procedures.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- typical workplace hazards associated with pricking out and transplanting operations, and methods of minimising risks
- reasons for pricking out and using particular techniques
- reasons for transplanting and using particular techniques
- reasons for potting on
- root system quality:

- tap root distortion
- lateral root distortion
- impact of root distortion on tree stability
- pricking out tree seedling techniques:
 - extracting seedlings from trays
 - pricking out techniques
 - root positioning techniques
 - firming-in technique that maintains root orientation
 - techniques for watering-in seedlings
- transplant transfer techniques for tree species
- potting on intervals and techniques for tree species
- purpose, features and safe operation of tools and equipment used in pricking and transplanting operations
- workplace procedures specific to pricking and transplanting operations:
 - workplace health and safety, with particular emphasis on risk control and use of personal protective equipment
 - communication reporting lines.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a tree production work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - tree seedlings
 - tools, equipment and materials used in pricking out and transplanting operations
 - PPE suitable for use in pricking out and transplanting operations
- specifications:
 - workplace health, safety and environmental policies and procedures applicable to pricking out and transplanting operations
 - workplace procedures for pricking out and transplanting operations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPNSY2005 Apply tree seed treatment

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to apply tree seed treatment technologies for disease control, insect pest control and yield enhancement. Seed applied technologies include inoculants, herbicide safeners, micronutrients, plant growth regulators, seed coatings and colorants.

The unit applies to individuals who use seed treatment processes in commercial and non-commercial tree production.

All work must be carried out to comply with workplace procedures according to state/territory health and safety and food safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Forest Nursery Production (NSY)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for seed treatment	1.1 Determine job requirements from work order or instruction, and where required seek clarification from appropriate personnel 1.2 Confirm safety and environmental requirements, including use of

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>personal protective equipment, for the task according to workplace procedures</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with tree seed treatments</p> <p>1.4 Confirm emergency procedures for responding to unintended exposures, spills or accidents</p> <p>1.5 Consult with team members to ensure that seed treatment operations are coordinated effectively</p> <p>1.6 Confirm seed treatment method</p> <p>1.7 Organise seeds, seed treatment products and equipment required for seed treatment process</p>
2. Implement pre-treatment quality procedures	<p>2.1 Check quality of seed to be used in treating processes according to workplace procedures</p> <p>2.2 Verify quality and suitability of seed treatment products according to workplace procedures</p> <p>2.3 Verify seed treatment equipment is capable of accurately and uniformly applying the chosen product to seed with acceptable physical properties of the treated seed</p> <p>2.4 Report non-compliant seed, seed treatment products and equipment to appropriate personnel</p>
3. Treat seed	<p>3.1 Confirm seed species and quantity and seed treatment method according to work order</p> <p>3.2 Identify factors that may affect product integrity and product control</p> <p>3.3 Identify critical control points in seed treatment process</p> <p>3.4 Prepare seed treatment products according to workplace procedures and manufacturer instructions</p> <p>3.5 Calibrate equipment and adjust equipment settings for lot changes, as required</p> <p>3.6 Implement seed treatment process according to workplace procedures and manufacturer instructions</p> <p>3.7 Follow changeover procedures when switching from one product or mixture to another</p> <p>3.8 Follow workplace procedures and manufacturer instructions for handling, control and proper disposal of leftover and unused treatment</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>product components, packaging materials, rinse water from treatment equipment, wastes and treated seed</p> <p>3.9 Monitor seed treatment to verify application rate, and ensure product appearance and quality and compliance with production targets</p> <p>3.10 Package, label and store treated seed according to workplace procedures</p>
4. Maintain seed treatment records	<p>4.1 Record production outcomes, treatment records and seed treatment application rate according to workplace procedures</p> <p>4.2 Maintain records of equipment calibration, maintenance and equipment faults or malfunctions and corrective actions taken according to workplace procedures</p> <p>4.3 Tag and report faulty and/or defective equipment according to workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret complex written, technical information in operating manuals to confirm equipment operations and perform troubleshooting
Writing	<ul style="list-style-type: none"> Complete routine workplace records related to quality, equipment calibration, maintenance and faults and product quality
Oral communication	<ul style="list-style-type: none"> Use active listening and questioning techniques to convey and clarify information
Numeracy	<ul style="list-style-type: none"> Perform routine calculations related to time, ratio, weight, production capacity, volume and number

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPNSY2005 Apply tree seed treatment	Not applicable	The unit has been created to address a skill or task required by industry that is not covered by an existing unit	Newly created

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPNSY2005 Apply tree seed treatment

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has treated one batch of tree seeds for one of the following:

- disease control
- insect pest control
- yield enhancement.

In undertaking this activity, the individual has:

- complied with safety and environmental requirements, including use of personal protective equipment (PPE) and safe use of chemicals
- conducted pre-treatment quality checks of seed, seed treatment products and seed treatment equipment
- selected, implemented and monitored appropriate seed treatment process
- recorded production and treatment data
- maintained records of equipment calibration, maintenance and equipment faults or malfunctions and corrective actions taken
- tagged and reported faulty and/or defective equipment.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- types and applications of tree seed treatments:
 - inoculants
 - herbicide safeners
 - micronutrients

- plant growth regulators
- seed coatings
- colorants
- sources of information on tree seed treatment
- reasons for using tree seed treatment:
 - pest control
 - insect pest control
 - yield enhancement
- tree species where chemical seed treatments are used
- methods for:
 - verifying quality and suitability of seed, seed treatment products and equipment
 - selecting seed treatment method
 - identifying critical control points in seed treatment process
 - monitoring seed treatment process
 - safe use, handling, storage and transport of chemicals
 - packaging, labelling, transporting and storing treated seed
- assessment of treated seed properties:
 - uniformity of treatment coating of individual seeds
 - presence and amount of treated seed dust
- environmental sustainability issues as they relate to the work task
- work health and safety requirements specific to the work task.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a tree production work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - a commercial quantity of tree seed for treatment
 - PPE, seed treatment equipment and seed treatment products
- specifications:
 - workplace procedures for tree seed treatment
 - workplace health, safety and environmental policies and procedures applicable to tree seed treatment.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPNSY3001 Graft nursery stock for planting in seed orchard

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to prepare and graft nursery stock onto selected root stock as part of forest nursery operations.

The unit applies to individuals who are involved in grafting as part of forestry operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Forest Nursery Production (NSY)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for grafting	1.1 Determine job requirements from work order or instruction, and where required seek clarification from appropriate personnel 1.2 Confirm safety and environmental requirements, including use of personal protective equipment, for the task according to workplace procedures

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with grafting operations</p> <p>1.4 Identify emergency and evacuation procedures to follow in the event of an incident or accident</p> <p>1.5 Consult with appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.6 Select tools, equipment and materials for grafting operations, and check for serviceability according to workplace procedures</p>
2. Collect material for potential scion wood	<p>2.1 Identify and select the individual tree to be cloned according to workplace procedures</p> <p>2.2 Identify the correct time and method for collecting scion wood</p> <p>2.3 Cut material for potential scion wood selection using appropriate equipment</p> <p>2.4 Apply appropriate labelling, storage, treatment and transport methods to maintain maximum viability of the material</p>
3. Select scion wood	<p>3.1 Follow workplace hygiene practices and procedures to maintain a contamination-free work area</p> <p>3.2 Undertake work using established safe operating practices according to workplace procedures and environmental requirements</p> <p>3.3 Visually assess collected material and select scion wood for propagation according to work order requirements</p> <p>3.4 Dispose of discarded cutting material according to workplace procedures</p>
4. Graft scion wood onto selected root stock	<p>4.1 Select and prepare root stock for grafting</p> <p>4.2 Use handling methods that prevent damage to root stock and scion wood</p> <p>4.3 Select grafting type that is appropriate to species</p> <p>4.4 Apply grafting method and attach identifying labels to grafted plant according to workplace procedures</p>
5. Apply post-grafting management techniques	<p>5.1 Provide and maintain nutrients and growing environment for grafted plant appropriate to the species requirements</p> <p>5.2 Take remedial action as required to control pests and diseases according to specified planting program</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	5.3 Record and report grafting process to the appropriate personnel

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extract routine information from industry guides and standard references on grafting techniques
Writing	<ul style="list-style-type: none"> Complete labels legibly and accurately with correct species name
Oral communication	<ul style="list-style-type: none"> Ask open and closed questions and use active listening techniques to clarify contents of work orders Provide oral reports on grafting activities
Numeracy	<ul style="list-style-type: none"> Measure quantities of nutrients appropriate for grafted plant Estimate timeframes appropriate to grafting processes

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPNSY3001 Graft nursery stock for planting in seed orchard	FWPFGM2212 Graft cuttings	Revised unit title Updated all unit components	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPNSY3001 Graft nursery stock for planting in seed orchard

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has carried out two separate grafting operations on plants of different species and has applied appropriate post-grafting management techniques for both plants.

In undertaking this activity, the individual has:

- complied with safety and environmental requirements, including use of personal protective equipment (PPE) and safe disposal of waste materials
- selected tools, equipment and materials for grafting operations and checked for serviceability
- collected material for potential scion wood and implemented workplace procedures to maintain viability of the material
- appraised and selected scion wood for propagation
- grafted scion wood onto selected root stock
- applied post-grafting management techniques.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- grafting methods
- types of tools and equipment used in grafting operations, including hand-held tools, including a grafting or budding knife, secateurs and grafting tape, and procedures for their safe use and maintenance
- process for collecting material for potential scion wood
- process for selection of scion wood
- techniques for grafting scion wood onto selected root stock
- post-grafting management techniques

- pre-planting treatments to prepare for grafting
- water and nutrient requirements for grafted plants
- conditioning and storage requirements for grafted plants
- impact of different growing environments on grafted plant, including:
 - heat
 - light
 - humidity
 - moisture
- procedures for safe use, handling, storage and transport of chemicals
- problem identification and resolution strategies, and common fault finding techniques in relation to grafting operations
- remedial treatment on grafted plants, including pest and disease control methods
- procedures for recording and reporting workplace information.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest or wood products work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - commercial quantity of trees, scion wood and root stock for grafting operations
 - tools, equipment, materials and storage facilities used in grafting operations
 - PPE suitable for grafting operations
- specifications:
 - workplace health, safety and environmental policies and procedures applicable to grafting operations
 - workplace procedures for grafting operations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPNSY3002 Extract, clean, store and despatch tree seeds

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to extract, clean, store and despatch tree seeds.

The unit applies to individuals who are involved in tree nursery operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Forest Nursery Production (NSY)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for processing tree seeds	1.1 Determine job requirements from work order or instruction, and where required seek clarification from appropriate personnel 1.2 Confirm safety and environmental requirements, including use of personal protective equipment, for the task according to workplace procedures

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with extracting, cleaning, storing and despatching tree seeds</p> <p>1.4 Identify emergency and evacuation procedures to follow in the event of an incident or accident</p> <p>1.5 Consult with appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.6 Select tools, equipment and materials, and check for serviceability according to workplace procedures</p>
2. Extract tree seed	<p>2.1 Receive and visually assess seed bearing material, and ensure species is identified on container label</p> <p>2.2 Weigh and allocate identifiers according to workplace procedures</p> <p>2.3 Select appropriate extraction units and equipment, and check for operational effectiveness</p> <p>2.4 Operate and monitor seed extraction systems to extract maximum seed yield</p> <p>2.5 Inspect seed capsules and reprocess as required to ensure maximum yield</p> <p>2.6 Clean, maintain and calibrate extraction units and equipment, and report abnormal operation or faults in equipment for corrective action</p> <p>2.7 Dispose of residue and other waste material according to workplace procedures</p> <p>2.8 Clean and maintain work areas according to workplace procedures</p> <p>2.9 Record and report results of seed extraction process</p>
3. Clean, treat and store tree seed	<p>3.1 Separate seeds from other materials, weigh and store according to workplace procedures</p> <p>3.2 Treat seeds to prevent deterioration according to seed species and workplace procedures</p> <p>3.3 Record seed information onto inventory system accurately according to workplace procedures</p> <p>3.4 Package seed for storage according to workplace procedures</p>
4. Prepare tree seed sample for viability testing	<p>4.1 Identify and check seed sample for testing according to work order</p> <p>4.2 Remove seed sample from lot and prepare for testing according to workplace procedures</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>4.3 Clearly label and package representative seed sample for despatch to testing body according to workplace procedures</p> <p>4.4 Record seed sample information onto inventory system accurately according to workplace procedures</p>
5. Despatch tree seed	<p>5.1 Interpret and check seed request specifications with appropriate personnel</p> <p>5.2 Retrieve seed from storage, and calculate quantities and species of seed to meet request specifications</p> <p>5.3 Weigh, document and place each seed species in an appropriate container in line with request requirements and workplace procedures</p> <p>5.4 Mix multiple seed lots thoroughly, as required in line with request specifications</p> <p>5.5 Label seed and seed mixtures according to workplace procedures</p> <p>5.6 Organise and undertake despatch of seed in line with request specifications and workplace procedures</p> <p>5.7 Record seed processing results onto inventory system according to workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> • Read and follow information on equipment and in workplace procedure manuals on safety and environmental requirements when processing seed • Interpret instructions combining written and pictorial information on equipment or in operational manuals
Writing	<ul style="list-style-type: none"> • Complete seed records and labels accurately and legibly using correct technical and enterprise specific vocabulary
Oral communication	<ul style="list-style-type: none"> • Ask open and closed questions and use active listening techniques to clarify contents of work orders

Skill	Description
Numeracy	<ul style="list-style-type: none"> Calculate seed weight and quantity using scales Identify and calculate percentages in specifications for seed mix Estimate impact of time on storage of seed Estimate time to complete work tasks when processing seed Undertake numerical calculations on seed processing equipment

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPNSY3002 Extract, clean, store and despatch tree seeds	FWPFGM2213 Process seed	Redesigned unit that includes content from FWPFGM2213 Process seed, FWPFGM3201 Manage seed collection, and FWPFGM3202 Extract seed	Not equivalent
FWPNSY3002 Extract, clean, store and despatch tree seeds	FWPFGM3201 Manage seed collection	Redesigned unit that includes content from FWPFGM2213 Process seed, FWPFGM3201 Manage seed collection, and FWPFGM3202 Extract seed	Not equivalent
FWPNSY3002 Extract, clean, store and despatch tree seeds	FWPFGM3202 Extract seed	Redesigned unit that includes content from FWPFGM2213 Process seed, FWPFGM3201 Manage seed collection, and FWPFGM3202 Extract seed	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPNSY3002 Extract, clean, store and despatch tree seeds

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has extracted, cleaned, stored and despatched one batch of tree seeds.

In undertaking this activity, the individual has:

- extracted tree seed using appropriate items of equipment selected from:
 - kilns operated by gas, solar energy, oil or electricity
 - sieves of various sizes
 - air-drying racks and trays
 - conveyor belt
 - computer controlled extraction systems
- cleaned, treated and stored one batch of tree seed
- prepared one tree seed sample for viability testing
- despatched one batch of seed in line with seed request specifications
- complied with safety requirements, including use of personal protective equipment (PPE)
- recorded seed processing information and results.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- tree seed species and structure
- tree seed source classes
- methods to treat seed
- methods for testing, packaging and storing tree seed species using:
 - vacuum sealing
 - use of inert atmospheres, including nitrogen and carbon dioxide

- methods for controlling the packing environment, including temperature, light and moisture
- types, operation and maintenance procedures for seed processing equipment, including electric and manual scales, packaging material, seed cleaning machine, seed lot mixing device, lifting equipment
- seed separation methods:
 - hand selection
 - wind separation and winnowing
 - sieving
 - vibrating
 - flotation
 - drying
 - crumbling of husks
 - computer controlled extraction systems
- seed despatch process:
 - seed species
 - seed batching and mixing
 - pure graded seed
 - sowing rate
 - despatch container
 - method of despatch
 - sowing equipment to be used
- methods for recording seed processing information and results and maintaining workplace information
- impact and application procedures of seed treatments, including fungicides and cleaning
- hazards associated with the storage, treatment and despatch of seed
- seed species and treating, packaging and storage processes
- seed treatments and storage requirements for different seed species
- types of diseases and pests likely to infect the species
- workplace procedures for recording and reporting workplace seed information, including:
 - species
 - time and date of harvest
 - time and date of receipt into the store
 - place or origin of seed
 - container identifier
- request specifications, including:
 - seed species
 - percentage of seed mix
 - pure graded seed
 - rate of sown
 - dispatch container

- method of dispatch
- sowing equipment to be used
- appropriate container criteria:
 - length of time seed will be stored
 - method to be used to transport seed
 - equipment to be used for sowing seed
 - quantity of seed
 - size of individual seeds
- methods for viability testing tree seed samples.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest or wood products work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - tree seed bearing material
 - workplace location or simulated workplace, required to extract, treat, store and despatch tree seed
 - materials and equipment relevant to tree seed extraction and processing work
 - PPE suitable for work involving the extraction, cleaning, storing and despatching of tree seeds
- specifications:
 - workplace health, safety and environmental policies and procedures applicable to tree seed extraction and processing work.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPNSY3003 Apply knowledge of tree stock growing in a forest nursery

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to identify the production cycle for bare root and container grown seedlings and cuttings, assess the impact of tree stock conditioning and tree stock topping practices on seedling quality and implement mycorrhizae inoculation required to optimise production in a forest nursery.

The unit applies to individuals working as arboriculture workers, farm forestry workers, forestry workers, nursery workers, plantation establishment workers, plantation forest officers and silviculturists who are involved in tree nursery operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Forest Nursery Production (NSY)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Communicate	1.1 Document and disseminate information to nursery staff on the key

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
information on the production cycle for bare root and container grown seedlings and cuttings	stages and timing of the bare root production cycle in a forest nursery 1.2 Document and disseminate information to nursery staff on the key stages and timing of the production cycle of container grown cuttings and seedlings in a forest nursery
2. Assess the impact of tree stock conditioning on seedling characteristics and quality	2.1 Collate and review information on the influence of seed sowing times on the minimum height and timing of undercutting 2.2 Chart the influence of seed spacings on root volume, foliage illumination and conditioning effectiveness 2.3 Gather and review information on the influence of the spacing of cuttings on stem diameter, shoot development and root system quality 2.4 Record the seasonal growth patterns of unconditioned seedlings in relation to the effects of spacing on seedling morphology 2.5 Gather and review data on the growth patterns of seedlings subject to mechanical conditioning in relation to seedling sturdiness 2.6 Monitor the influence of types and timing of conditioning treatments on seedling morphology and physiology 2.7 Review the influence of types and timing of conditioning treatments on root system quality
3. Review the impact of tree stock topping practices on seedling characteristics and quality	3.1 Compare the impact of topping before and after undercutting on fibrous root development 3.2 Monitor the impact of re-topping on bud and shoot development 3.3 Record the effects of topping severity on seedling malformation
4. Inoculate seedbeds with mycorrhizae	4.1 Identify different types of mycorrhizal fungi 4.2 Identify the types of mycorrhizal fungi associated with different tree species 4.3 Confirm operational, safety and environmental protection procedures, including use of personal protective equipment for inoculating seedbeds with mycorrhizae 4.4 Select and check for serviceability tools, equipment and materials for inoculating seedbeds according to workplace procedures 4.5 Inoculate seed beds with mycorrhizae in accordance with workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extract information from industry guides and standard references on nursery practices related to tree stock growing
Writing	<ul style="list-style-type: none"> Complete workplace forms and record observations on seedling quality and characteristics
Oral communication	<ul style="list-style-type: none"> Ask open and closed questions and use active listening techniques to seek and gather information on forest tree propagation
Numeracy	<ul style="list-style-type: none"> Apply basic mathematical functions to count, calculate area, estimate seedling spacing and measure seedling dimensions

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPNSY3003 Apply knowledge of tree stock growing in a forest nursery	Not applicable	The unit has been created to address a skill or task required by industry that is not covered by an existing unit	Newly created

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPNSY3003 Apply knowledge of tree stock growing in a forest nursery

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has applied knowledge of tree stock growing in a forest nursery.

In undertaking this activity, the individual has:

- prepared and communicated information to nursery staff on the production cycle of bare root and container grown cuttings and seedlings
- collated and assessed information on the impact of two tree stock conditioning practices on seedling characteristics and quality
- collated and assessed information on the impact of tree stock topping and re-topping practices on seedling characteristics and quality
- followed operational, workplace health and safety and environmental protection procedures, including the use of personal protective equipment (PPE), in inoculating one seedbed with mycorrhizae.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- key stages and timing of the production cycle of bare root cuttings and seedlings
- key stages and timing of the production cycle of container grown cuttings and seedlings in a forest nursery
- tree stock conditioning:
 - techniques
 - prerequisites for effective tree stock conditioning – seed sowing times and seed spacing
 - tree stock conditioning principles
- tree stock topping principles:

- topping techniques
- impact of topping either before or after undercutting on fibrous root development
- impact of re-topping on bud and shoot development
- impact of topping severity on seedling malformation
- mycorrhizal fungi:
 - types of mycorrhizal fungi
 - association of mycorrhizal fungi with softwood and hardwood species
 - the mechanism of mycorrhizal association and its importance to tree health
 - seed bed inoculation techniques
 - operational, workplace health and safety and environmental protection procedures, including the use of PPE, for inoculating seedbeds with mycorrhizae.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a tree production work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - PPE, tools, equipment and materials required for inoculating seedbeds with mycorrhizae
 - forest tree nursery.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPNSY3004 Identify, evaluate and mark quality seed trees

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to identify, evaluate, mark and record the position of potential seed trees.

The unit applies to individuals who are involved in tree nursery operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Forest Nursery Production (NSY)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for locating and evaluating seed trees	1.1 Determine job requirements from work order or instruction, and where required seek clarification from appropriate personnel 1.2 Confirm safety and environmental requirements, including use of personal protective equipment, for the task according to workplace procedures

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with identifying, evaluating and marking seed trees</p> <p>1.4 Identify emergency and evacuation procedures to follow in the event of an incident or accident</p> <p>1.5 Consult with appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.6 Select tools, equipment and materials, and check for serviceability according to workplace procedures</p>
2. Identify and evaluate proposed seed tree	<p>2.1 Identify the genus, species and location of potential seed trees according to foliage, fruit and flower characteristics</p> <p>2.2 Verify the provenance of the stand in which the seed trees are located</p> <p>2.3 Identify the sex of the proposed seed trees and proximity to male specimens</p> <p>2.4 Identify evaluative criteria used to determine the suitability of the proposed seed trees as timber producers</p> <p>2.5 Assess potential seed trees according to their suitability as timber producers</p> <p>2.6 Identify the silvicultural history of the stand in which the potential seed trees are located in relation to the suitability of the trees as seed producers</p> <p>2.7 Record data on the potential seed trees and the surrounding stand according to workplace procedures</p>
3. Confirm location of seed trees	<p>3.1 Mark and demarcate seed trees within the general stand according to workplace procedures</p> <p>3.2 Record position of seed tree using hard copy maps/plans, Global Positioning System (GPS) coordinates or digital maps according to workplace procedures</p> <p>3.3 Report location of seed trees to appropriate person</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extract information from industry guides and standard references on identifying, evaluating and marking seed trees
Writing	<ul style="list-style-type: none"> Complete workplace forms
Oral communication	<ul style="list-style-type: none"> Ask open and closed questions and use active listening techniques to clarify contents of work orders
Numeracy	<ul style="list-style-type: none"> Apply basic arithmetic functions to estimate tree dimensions and branch angles

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPNSY3004 Identify, evaluate and mark quality seed trees	Not applicable	The unit has been created to address a skill or task required by industry that is not covered by an existing unit	Newly created

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPNSY3004 Identify, evaluate and mark quality seed trees

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has identified, evaluated, marked and located the position of one seed tree according to work instructions.

In undertaking this activity, the individual has:

- confirmed safety and environmental requirements, including use of personal protective equipment (PPE) for the task
- selected and checked for serviceability tools, equipment and materials
- identified the position, provenance, characteristics and suitability for seed production of one proposed seed tree
- marked and demarcated the seed tree within the general stand according to workplace procedures
- recorded and reported position of the seed tree using hard copy maps/plans, Global Positioning System (GPS) coordinates or digital maps according to workplace procedures.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- species, provenances and stand of seed trees
- evaluation criteria for seed trees:
 - health
 - vigour
 - freedom from pests
 - stem straightness
 - branch size
 - branch angle
 - branching patterns

- spiral grain
- wood density
- stem fluting
- flowering size
- tools and equipment used in seed orchard maintenance
- silvicultural history of stand in which seed tree is located:
 - establishment success
 - pruning practices
 - thinning schedules
- techniques for marking and demarcating seed trees
- techniques for recording position of seed trees:
 - maps
 - plans
 - GPS.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - stands of trees with potential seed trees
 - tools, equipment, materials and PPE used in identifying, evaluating, marking and locating seed trees
- specifications:
 - work instructions for identifying, evaluating, marking and recording the position of potential seed trees
 - workplace health, safety and environmental policies and procedures applicable to identifying, evaluating and marking seed trees.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPNSY3005 Maintain seed orchard

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to apply silvicultural techniques to maintain a seed orchard.

The unit applies to individuals who are involved in tree nursery operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Forest Nursery Production (NSY)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for seed orchard maintenance activities	1.1 Determine job requirements from work order or instruction, and where required seek clarification from appropriate personnel 1.2 Confirm safety and environmental requirements, including use of personal protective equipment and safe use of chemicals, for the task according to workplace procedures

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with seed orchard maintenance activities</p> <p>1.4 Identify emergency and evacuation procedures to follow in the event of an incident or accident</p> <p>1.5 Consult with appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.6 Select tools, equipment and materials for seed orchard maintenance activities, and check for serviceability according to workplace procedures</p> <p>1.7 Read and interpret seed orchard plan to confirm species, location and other details of trees in area of orchard where maintenance activities are to be conducted</p>
2. Implement sward maintenance activities	<p>2.1 Mow sward according to workplace procedures and safety requirements</p> <p>2.2 Apply weed control measures according to workplace procedures and safety requirements</p> <p>2.3 Fertilise sward areas according to workplace procedures and safety requirements</p> <p>2.4 Apply sward maintenance practices that maintain pollination and pollinating insects</p> <p>2.5 Report outcomes of sward maintenance activities to appropriate person</p>
3. Implement seed orchard maintenance and genetic improvement activities	<p>3.1 Implement fungi, disease and pest control measures according to workplace procedures and safety requirements</p> <p>3.2 Apply watering and fertilising techniques to provide optimal growth conditions for trees</p> <p>3.3 Apply roguing techniques to remove undesired families or ramets</p> <p>3.4 Apply thinning and pruning practices to produce trees with an open crown with large flower production and facilitate seed harvest</p> <p>3.5 Apply techniques to promote flowering if flower production fails or is unsatisfactory</p> <p>3.6 Respond to frost</p> <p>3.7 Apply cutting and grafting techniques</p> <p>3.8 Reuse, recycle or dispose of waste according to environmental and workplace procedures</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	3.9 Report outcomes of seed orchard maintenance and genetic improvement activities to appropriate person

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extract information from industry guides and standard references on seed orchard maintenance
Writing	<ul style="list-style-type: none"> Complete workplace forms
Oral communication	<ul style="list-style-type: none"> Ask open and closed questions and use active listening techniques to clarify contents of work orders
Numeracy	<ul style="list-style-type: none"> Apply basic arithmetic functions to calculate quantities and mixing ratios for chemicals

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPNSY3005 Maintain seed orchard	Not applicable	The unit has been created to address a skill or task required by industry that is not covered by an existing unit	Newly created

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPNSY3005 Maintain seed orchard

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has applied silvicultural techniques to maintain one seed orchard.

In undertaking this activity, the individual has:

- applied each of the following sward maintenance activities as required:
 - mowing
 - fertiliser application
 - weed control
 - promotion of pollinators
- applied each of the following seed orchard maintenance and genetic improvement activities as required:
 - fungi and pest control
 - watering and fertilising
 - roguing
 - thinning and pruning
 - flower induction
 - frost mitigation
 - cutting and grafting
- complied with workplace safety and environmental requirements, including use of personal protective equipment (PPE) and safe use of chemicals \
- recorded outcomes of all sward maintenance and seed orchard maintenance according to workplace procedures.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- seed orchards:
 - types of seed orchards – clonal and seedling seed orchards
 - size and longevity of seed orchards
 - factors influencing location of seed orchards
 - establishment of seed orchards
 - spacing of trees in seed orchards
 - principles of seed orchard design
 - seed orchard plan
 - pollination in seed orchards
- PPE, tools and equipment used in seed orchard maintenance
- safe use of chemicals
- risk and hazards associated with seed orchard maintenance
- seed orchard maintenance and genetic improvement activities:
 - fungi and pest control measures
 - watering and fertilising
 - roguing
 - thinning and pruning
 - flower induction
 - frost mitigation
 - cutting and grafting
- sward maintenance activities:
 - mowing
 - fertiliser
 - weed control
 - promoting pollinators.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - seed orchard
 - PPE, tools and equipment used in seed orchard maintenance
 - seed orchard plan

- specifications:
 - workplace health, safety and environmental policies and procedures applicable to seed orchard maintenance.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPNSY3006 Manage mother plants

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to manage mother plants used in tree nurseries.

The unit applies to individuals working as arboriculture workers, farm forestry workers, forestry workers, nursery workers, plantation establishment workers, plantation forest officers and silviculturists who are involved in tree nursery operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Forest Nursery Production (NSY)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to manage mother plants	1.1 Determine job requirements from work order or instruction, and where required seek clarification from appropriate personnel 1.2 Confirm safety and environmental requirements, including use of personal protective equipment and safe chemical handling procedures,

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>for the task according to workplace procedures</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with managing mother trees</p> <p>1.4 Identify emergency and evacuation procedures to follow in the event of an incident or accident</p> <p>1.5 Consult with appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.6 Select tools, equipment and materials, and check for serviceability according to workplace procedures</p>
2. Select mother plants	<p>2.1 Identify characteristics of plants that are suitable for use as mother plants</p> <p>2.2 Select plants for use as mother plants</p> <p>2.3 Follow workplace procedures for establishment of mother plants</p> <p>2.4 Classify mother plants according to types and varieties</p> <p>2.5 Label mother plants according to workplace procedures</p>
3. Maintain mother plants	<p>3.1 Set lighting level to maintain plants in vegetative phase</p> <p>3.2 Prune and train mother trees to maximise the number of healthy branches that can be trimmed to create clones</p> <p>3.3 Manage tree canopies to avoid overcrowding and maintain light penetration</p> <p>3.4 Water and fertilize mother plants according to workplace procedures and safety requirements</p> <p>3.5 Test plant material for viruses and other organisms according to workplace procedures and safety requirements</p> <p>3.6 Implement pest and insect control measures according to workplace procedures and safety requirements</p> <p>3.7 Maintain records of mother plants</p>
4. Replace mother plant	<p>4.1 Assess strength of clones</p> <p>4.2 Retire existing mother plants and replace with clones</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extract information from industry guides and standard references on techniques for maintenance of mother plants
Writing	<ul style="list-style-type: none"> Complete workplace forms and plant labels
Oral communication	<ul style="list-style-type: none"> Ask open and closed questions and use active listening techniques to clarify contents of work orders
Numeracy	<ul style="list-style-type: none"> Apply basic arithmetic functions to complete records related to mother plant maintenance

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPNSY3006 Manage mother plants	Not applicable	The unit has been created to address a skill or task required by industry that is not covered by an existing unit	Newly created

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPNSY3006 Manage mother plants

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has managed mother plants in a tree nursery.

In undertaking this activity, the individual has:

- confirmed safety and environmental requirements, including use of personal protective equipment (PPE) and safe chemical handling procedures
- identified one plant suitable for use as a mother plant using industry accepted criteria
- maintained one mother plant in a tree nursery
- maintained records of one mother plant according to workplace procedures
- determined the need to replace one existing mother plant
- retired one existing mother plant and replaced with clone.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- uses of mother plants:
 - cloning
 - scion
 - rootstock
- advantages of creating clones:
 - size
 - quality
 - yield
 - shortening growing cycle
- genetic relationship between mother plants and clones
- life cycle of mother plants

- characteristics of plants suitable for use as mother plants:
 - strong roots
 - strong stem
 - resistant to pests and fungi
 - large harvest yield
 - steady easy maturation
 - premium example of species
 - free of disease
 - healthy and vigorous enough to withstand material donation
- maintenance requirements of mother plants:
 - lighting
 - pruning and training
 - managing tree canopy
 - watering
 - fertilising
 - testing plant material for viruses and other organisms
 - pest and insect control measures
- techniques and requirements for maintaining mother plants in pots
- reasons for keeping mother trees in vegetative state
- safe handling, use, storage and transport of chemicals
- hazards and risks associated with maintaining mother plants.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - mother plant and clones
 - tools, equipment, materials and PPE required for work task
- specifications:
 - workplace health, safety and environmental policies and procedures applicable to tree nursery operations

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPNSY3007 Operate automated topping system as part of tree production nursery operations

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to operate an automated topping system as part of tree production nursery operations.

The unit applies to individuals who operate automated topping systems as part of tree production nursery operations.

All work must be carried out to comply with workplace procedures according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Forest Nursery Production (NSY)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for work	1.1 Determine job requirements from work order or instruction, and where required seek clarification from appropriate personnel 1.2 Confirm safety and environmental requirements, including use of personal protective equipment and machine guards, for the task

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>according to workplace procedures</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with working with automated topping system</p> <p>1.4 Consult with team members to ensure that automated topping system operations are coordinated effectively</p> <p>1.5 Select seedlings to be trimmed according to job requirements</p> <p>1.6 Confirm production capacity and full range of functions of automated topping system</p>
2. Set up topping system	<p>2.1 Check existence and serviceability of safety equipment, including emergency stops, gauges, guards and controls</p> <p>2.2 Select topping system program and make adjustments according to job requirements and manufacturer instructions</p> <p>2.3 Load and/or position seedlings according to manufacturer instructions and production requirements</p> <p>2.4 Conduct trial runs to check topping operation, accuracy, alignment and that finished product meets quality requirements</p> <p>2.5 Make necessary adjustments to topping system settings based on outcomes of trial runs</p>
3. Operate topping system	<p>3.1 Complete automated topping system start-up procedure according to manufacturer instructions</p> <p>3.2 Operate automated topping system according to designed capacity, purpose and manufacturer recommendations</p> <p>3.3 Monitor topping system operation to ensure product quality and output</p> <p>3.4 Minimise waste according to workplace and environmental protection procedures</p> <p>3.5 Recycle, reuse or dispose of cuttings according to workplace procedures</p> <p>3.6 Identify problems with the required work and/or the operation of the automated topping system, and rectify or report to appropriate persons</p> <p>3.7 Shut topping system down according to workplace procedures</p> <p>3.8 Record production outcomes and equipment faults or malfunctions and corrective actions taken according to workplace procedures</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
4. Maintain topping equipment	4.1 Perform routine maintenance according to purpose and manufacturer recommendations 4.2 Tag and report faulty and/or defective equipment according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret complex written, technical information in operating manuals to confirm equipment operations and perform troubleshooting
Writing	<ul style="list-style-type: none"> Complete routine workplace records related to equipment faults and product quality
Oral communication	<ul style="list-style-type: none"> Use active listening and questioning techniques to convey and clarify information
Numeracy	<ul style="list-style-type: none"> Perform routine calculations related to time, dimensions, production capacity, volume and number

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPNSY3007 Operate automated topping system as part of tree production nursery operations	Not applicable	The unit has been created to address a skill or task required by industry that is not covered by an existing unit	Newly created

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPNSY3007 Operate automated topping system as part of tree production nursery operations

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has operated and maintained an automated topping system as part of tree production nursery operations for one batch in one production run.

In undertaking this activity, the individual has:

- determined job requirements
- confirmed safety and environmental requirements, including use of personal protective equipment (PPE) and emergency stops, gauges, guards and controls
- selected seedlings to be trimmed according to job requirements
- confirmed production capacity and full range of functions of automated topping system
- selected topping system program and loaded and/or positioned seedlings
- conducted trial runs to check topping operation, accuracy, alignment and that finished product met quality requirements
- operated and monitored topping system
- recorded production outcomes and equipment faults or malfunctions and corrective actions taken
- performed routine operator maintenance on topping machine system.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- types, functions, components, accessories and capacity of automated topping systems used in tree production nursery operations
- types of blades:
 - reciprocating
 - rotating
- sources of information on automated topping system operation and maintenance

- reasons for using automated topping systems in tree production nursery operations:
 - speed
 - controlling accuracy
 - consistency of product dimensions
 - reducing mechanical injury
- methods for:
 - setting up automated topping system
 - selecting programs for automated topping system
 - operating automated topping system
 - quality assurance
 - troubleshooting automated topping system
 - maintaining automated topping system
 - maintaining and/or replacing blades
 - reporting machinery faults and material defect
- basic components and functions of mechatronic systems:
 - sensors
 - actuators
 - controllers
 - mechanical components
- environmental sustainability issues as they relate to the work task
- workplace health and safety requirements specific to the work task.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - an automated topping system for forestry nursery production
 - commercial quantities of seedlings to be topped
 - PPE suitable for operation of automated topping system
- relationships:
 - work team for seed sowing line
- specifications:
 - workplace procedures for setting up, operating and maintaining automated topping systems
 - workplace health, safety and environmental policies and procedures applicable to forestry nursery production.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPNSY3008 Operate automated seed sowing line for containerised forest seedling production

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to operate a seed sowing line as part of containerised forest seedling production.

The unit applies to individuals who operate seed sowing lines in commercial tree production nurseries.

All work must be carried out to comply with workplace procedures according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Forest Nursery Production (NSY)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for work	1.1 Determine job requirements from work order or instruction, and where required seek clarification from appropriate personnel 1.2 Confirm safety and environmental requirements, including use of personal protective equipment and machine guards, for the task

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>according to workplace procedures</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with working with tree seed sowing line</p> <p>1.4 Consult with team members to ensure that seed sowing line operations are coordinated effectively</p> <p>1.5 Select correct seed species, quantity, size and grade, media and type and number of trays/containers according to job requirements</p> <p>1.6 Apply seed treatment according to workplace and client requirements</p> <p>1.7 Confirm production capacity and full range of functions of seed sowing lines</p>
2. Set up tree seed sowing line	<p>2.1 Check existence and serviceability of safety equipment, including emergency stops, gauges, guards and controls</p> <p>2.2 Identify service points on seed sowing line and grease nipples on bearings prior to operation according to manufacturer instructions</p> <p>2.3 Select seed sowing line program from control panel and make adjustments according to job requirements and manufacturer instructions</p> <p>2.4 Load seed, media and containers according to manufacturer instructions and production requirements</p> <p>2.5 Conduct trial runs to check seed sowing line operation, accuracy, alignment and that finished product meets quality requirements</p> <p>2.6 Make necessary adjustments to seed sowing line settings based on outcomes of trial runs</p>
3. Operate tree seed sowing equipment	<p>3.1 Complete seed sowing line start-up procedure according to manufacturer instructions</p> <p>3.2 Operate seed sowing line according to designed capacity, purpose and manufacturer recommendations</p> <p>3.3 Monitor seed sowing line operation to ensure product quality and output</p> <p>3.4 Minimise waste according to workplace and environmental protection procedures</p> <p>3.5 Identify problems with the required work and/or the operation of the seed sowing line, and rectify or report to appropriate persons</p> <p>3.6 Shut seed sowing line down according to workplace procedures</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	3.7 Record production outcomes and equipment faults or malfunctions and corrective actions taken according to workplace procedures
4. Maintain seed sowing equipment	4.1 Perform routine maintenance according to purpose and manufacturer recommendations 4.2 Tag and report faulty and/or defective equipment according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret complex written, technical information in operating manuals to confirm equipment operations and perform troubleshooting
Writing	<ul style="list-style-type: none"> Complete routine workplace records related to equipment faults and product quality
Oral communication	<ul style="list-style-type: none"> Use active listening and questioning techniques to convey and clarify information
Numeracy	<ul style="list-style-type: none"> Perform routine calculations related to time, dimensions, production capacity, volume and number

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPNSY3008 Operate automated seed sowing line for containerised forest seedling production	Not applicable	The unit has been created to address a skill or task required by industry that is not covered by an existing unit	Newly created

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPNSY3008 Operate automated seed sowing line for containerised forest seedling production

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has operated and maintained an automated seed sowing line for containerised forest seedling production for one batch in one production run.

In undertaking this activity, the individual has:

- determined job requirements
- confirmed safety and environmental requirements, including use of personal protective equipment (PPE) and emergency stops, gauges, guards and controls
- selected and loaded correct species, quantity, size and grade of tree seed, media and type and number of trays/containers
- confirmed production capacity and full range of functions of seed sowing line
- selected seed sowing line program and conducted trial runs to check seed sowing line operation and quality of finished product
- operated and monitored tree seed sowing equipment including recording production outcomes and equipment faults or malfunctions
- taken corrective actions in response to machine faults and performed routine operator maintenance on tree seed sowing equipment.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- types, functions, components, accessories and capacity of seeding systems used in containerised forest seedling production
- sources of information on seed sowing line operation and maintenance
- reasons for using seed sowing line for containerised forest seedling production:
 - sowing speed
 - controlling accuracy

- reducing mechanical injury of seeds
- reducing the occurrence of skips, missed seed placement and multiple sown seeds
- types and application of containers/trays
- types and purpose of seed treatments
- types and characteristics of media
- methods for:
 - setting up seed sowing line
 - selecting programs for seed sowing line
 - operating seed sowing line
 - quality assurance
 - troubleshooting seed sowing line
 - maintaining seed sowing line
 - reporting machinery faults and material defects
- basic components and functions of mechatronic systems:
 - sensors
 - actuators
 - controllers
 - mechanical components
- environmental sustainability issues as they relate to the work task
- work health and safety requirements specific to the work task.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - a seed sowing line for forestry nursery production
 - commercial quantities of seed, containers and media
 - PPE for operation of seed sowing line
- relationships:
 - work team for seed sowing line
- specifications:
 - workplace procedures for setting up, operating and maintaining seed sowing line
 - workplace health, safety and environmental policies and procedures applicable to forestry nursery production.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSAW2212 Assemble materials using nail plates

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to prepare and assemble materials using nail plates. It includes stacking, strapping and despatching products in readiness for transport to a construction site.

The unit applies to production workers, sawmill workers and manufacturing assistants who undertake specified activities under the direction of more experienced workers.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Sawmilling and Processing (SAW)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for assembly	1.1 Determine job requirements from production plan or work order and seek clarification from appropriate person where required 1.2 Identify and obtain type and quantity of material and nail plates in preparation for assembling 1.3 Confirm safety requirements for assembling materials using nail plates according to workplace safety procedures

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.4 Select, fit and use personal protective equipment (PPE)</p> <p>1.5 Select appropriate tools and equipment, and check for operational effectiveness according to manufacturer recommendations</p>
2. Assemble materials	<p>2.1 Select pre-cut timber components from material cutting list</p> <p>2.2 Reject material with defects and dispose of according to environmental requirements</p> <p>2.3 Use equipment following workplace safety and environmental requirements and manufacturer instructions</p> <p>2.4 Identify allowable number and position of joins from production plan</p> <p>2.5 Position and clamp components ready for joining with allowable faults, joins and grain according to construction standards and grading rules</p> <p>2.6 Staple components to maintain temporary alignment during assembly</p>
3. Install nail plates	<p>3.1 Locate nail plates, position nail plate press over joints and install nail plates according to production plan</p> <p>3.2 Repair or dispose of substandard and damaged nail plates according to workplace and environmental requirements</p> <p>3.3 Correct assembly faults according to workplace procedures</p> <p>3.4 Identify and resolve routine processing and equipment faults, and report to appropriate person</p>
4. Prepare material for despatch and report outcomes	<p>4.1 Check finished material for quality, and label according to work order</p> <p>4.2 Remove components from machinery and safely stack in designated location</p> <p>4.3 Strap, pack and label finished material ready for transportation</p> <p>4.4 Avoid wastage of strapping and packaging materials and maximise use of recycled materials</p> <p>4.5 Clean work area and recycle, reuse or dispose of waste according to workplace and environmental requirements</p> <p>4.6 Complete production and quality records and report according to workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Writing	<ul style="list-style-type: none"> Produce labels that accurately identify products in production plans and work order ready for transportation Complete workplace records accurately and legibly using technical and industry specific vocabulary
Oral communication	<ul style="list-style-type: none"> Listen actively to clarify contents of production plans and work orders Report processing and equipment faults accurately and unambiguously using industry terminology
Numeracy	<ul style="list-style-type: none"> Use addition and multiplication to calculate quantity of individual and total components and nail plates

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPSAW2212 Assemble materials using nail plates	FWPSAW2205 Assemble materials using nail plates	Application and Performance Criteria reworded Updated Foundation Skills and Assessment Requirements	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSAW2212 Assemble materials using nail plates

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has assembled materials using nail plates for two different work orders or production plans, and has:

- determined the quality of materials and discarded non-compliant materials
- safely and correctly used machinery, equipment and nail plate press to assemble materials
- followed workplace policies and procedures relevant to assembling materials using nail plates
- strapped, packed and accurately labelled completed bundles in preparation for transport.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- production plans, work orders and manufacturer specifications for using nail plates
- workplace safety and environmental policies and procedures relating to material assembly with nail plates
- relevant standards and specifications for timber assembly using nail plates
- the purpose, features and operation of various types of tools and equipment used for assembling products:
 - measuring equipment
 - assembly machinery
 - nail plate presses
 - staple guns
 - nail guns
 - compressor or compressed air supply
 - marking equipment
 - strapping equipment

- methods, processes and techniques of:
 - assembling materials using nail plates
 - layout, storing and stacking of finished materials
 - recording and reporting production outcomes and equipment faults
 - workplace communication
- assembly sequences
- typical assembly faults triggering correction to ensure product quality:
 - incorrectly positioned joints
 - timber splits from nailing
 - incorrectly positioned nail plates
- industry standard cross-sections, lengths and tolerances
- environmental requirements for disposing of, recycling and reusing timber
- characteristics of timbers and typical timber defects which impact nail plate usage:
 - warp
 - wane
 - cupping
 - shakes
 - insect defects
 - knots
 - resin pockets
- workplace safety requirements relevant to assembling material using nail plates:
 - hazard identification and control measures
 - use of equipment and equipment lock-out
 - personal protective equipment (PPE)
 - hazardous manual tasks.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a manufacturing or processing facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - tools, equipment and machinery to assemble materials
 - materials and nail plates to assemble products
 - PPE
- specifications:
 - access to workplace safety and environmental policies and procedures applicable to assembling materials using nail plates
 - access to nail plate manufacturer specifications and instructions

- access to work orders or production plans to assemble materials using nail plates
- relationships:
 - person to confirm work order and report production and equipment issues.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSAW2213 De-stack timber drying racks

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to assess dried timber boards, separate them from seasoning racks, monitor transfer and maintain timber board supply for dressing process.

The unit applies to individuals who de-stack timber drying racks in a dry mill or sawmill work environment.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Sawmilling and Processing (SAW)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for de-stacking timber drying racks	1.1 Determine job requirements from work order or instructions and, where required, check with appropriate personnel 1.2 Confirm workplace health and safety and environmental protection practices and/or procedures for task, including use of personal

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	protective equipment 1.3 Identify and assess hazards and take actions to mitigate risks related to de-stacking timber drying racks 1.4 Identify type and quantity of boards for de-stacking operation 1.5 Check equipment used in de-stacking timber drying racks for operational effectiveness
2. De-stack timber drying racks	2.1 Assess timber boards visually for type, size and quality 2.2 Measure moisture content of timber boards and approve for de-stacking 2.3 Load racks onto separation equipment according to workplace procedures 2.4 Separate and load timber boards onto conveyor systems 2.5 Remove bearers, spacing stick and other protective items from timber boards and store for return to stacking area 2.6 Reject and dispose of sub-standard materials according to workplace environmental protection practices and/or procedures 2.7 Keep de-stacking area clear of timber scraps and dispose of waste according to workplace environmental protection practices and/or procedures
3. Monitor transfer and maintain supply of timber board to subsequent operation	3.1 Monitor conveyor transfer procedures and keep free from blockages 3.2 Supply racks to timber board separation equipment by maintaining consistent size and species for dressing operation according to work order 3.3 Change timber board supply in response to changes to size for dressing process 3.4 Monitor changeover points according to workplace procedures 3.5 Identify routine process supply and equipment faults, and resolve or report to appropriate personnel

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret routine workplace documents related to de-stacking timber drying racks
Writing	<ul style="list-style-type: none"> Complete routine records for processing and equipment faults
Oral communication	<ul style="list-style-type: none"> Ask open and closed questions and actively listen to clarify contents of work orders

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPSAW2213 De-stack timber drying racks	FWPSAW2206 De-stack seasoning racks	Revised Application, Elements, Performance Criteria, Foundation Skills, Performance Evidence and Assessment Conditions	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSAW2213 De-stack timber drying racks

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has de-stacked timber drying racks and maintained the supply of timber boards for dressing process for one production period according to workplace operating procedures.

In performing this task, the individual has:

- followed workplace health and safety and environmental protection practices and/or procedures
- completed pre-operational check and operated equipment involved in de-stacking timber drying racks
- measured moisture content and visually assessed quality of timber boards
- separated timber boards from the rack bearers and spacing sticks
- maintained the required supply of de-stacked timber for dressing process.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- purpose, features and operation of equipment used for drying timber
- types and components of timber drying racks, including:
 - air seasoning or kiln seasoning racks
 - timber, steel or mobile racks with bearers and spacing sticks
- mechanical timber board separation machine and conveyor system
- methods used to measure moisture content of timber
- techniques for de-stacking timber drying racks
- markings used on timber boards to identify grade
- workflow processes used to de-stack timber drying racks
- flow of timber board supply in and out of de-stacking area

- timber storage systems and labelling
- characteristics used to visually assess timber boards, including:
 - type
 - finish quality
 - timber defects
 - length
 - width
 - thickness
- typical timber defects and how they affect ability to produce a quality finished product, including:
 - incorrect moisture content
 - warp
 - wane
 - cupping
 - shakes
 - insect defects
 - knots
 - resin pockets
- range of industry standard lengths, cross-sections, appearance grades and applicable terminology
- workplace procedures specific to de-stacking timber drying racks, including:
 - health and safety, with particular emphasis on use of personal protective and other equipment
 - communication reporting lines
 - recording and reporting processing and equipment faults
- workplace environmental protection requirements and practices for timber processing operations, including:
 - cleaning of plant, tools and equipment
 - reducing water and energy use
 - disposing of, recycling and reusing timber
 - disposal of waste material.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing plant, a timber product manufacturing plant or an environment that accurately represents workplace conditions
- resources, equipment and materials:

- timber drying racks to de-stack
- mechanical board separation machine with conveyor system
- moisture probes
- personal protective equipment suitable for de-stacking seasoning racks
- specifications:
 - workplace procedures for de-stacking seasoning racks
 - workplace health and safety and environmental protection policies and/or procedures applicable to de-stacking seasoning racks.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSAW2214 Sort timber boards manually

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to conduct manual sorting of timber boards of varying sizes and store or distribute for downstream operations.

The unit applies to individuals who sort timber boards in a sawmill or wood products work environment.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Sawmilling and Processing (SAW)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for sorting timber boards	1.1 Determine job requirements from work order or instructions and, where required, check with appropriate personnel 1.2 Confirm workplace health and safety and environmental protection practices and/or procedures for task, including use of personal

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	protective equipment 1.3 Identify and assess hazards and take actions to mitigate risks related to timber sorting operation 1.4 Identify type and quantity of timber boards for sorting, and confirm allocation of sorted timber boards to storage and/or downstream operations 1.5 Check timber sorting and transferring equipment for operational effectiveness
2. Sort and distribute timber boards	2.1 Assess timber board characteristics and defects visually 2.2 Identify timber board cross-sections, lengths and grades and allocate to storage bins or trays 2.3 Move sorted timber boards by size and grade to storage location or direct to subsequent operations according to work order while maintaining material flow 2.4 Check operation of conveyors and bins regularly to ensure supply of boards to downstream processing 2.5 Identify routine process and equipment faults and resolve or report to appropriate personnel
3. Complete timber boards sorting operation	3.1 Reject and dispose of sub-standard material according to workplace environmental protection practices and/or procedures or mark for docking 3.2 Label storage locations according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret workplace documentation related to sorting timber boards
Writing	<ul style="list-style-type: none"> Complete routine records for sorting process and equipment faults

Skill	Description
Oral communication	<ul style="list-style-type: none"> Ask open and closed questions and actively listen to clarify contents of work orders
Numeracy	<ul style="list-style-type: none"> Determine quantities of required material within work orders and count amounts

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPSAW2214 Sort timber boards manually	FWPSAW2202 Sort boards manually	New unit title Revised Elements, Performance Criteria, Foundation Skills, Performance Evidence, Knowledge Evidence and Assessment Conditions	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSAW2214 Sort timber boards manually

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has sorted timber boards manually by size and grade for allocation to storage or downstream operations for one production run according to prescribed specifications.

In performing this task, the individual has:

- followed workplace health and safety and environmental protection practices and/or procedures
- assessed timber board dimensions, characteristics and defects visually
- used transfer sorting equipment to distribute boards to storage or subsequent operations while maintaining material flow
- disposed of or recycled sub-standard boards or marked for docking.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- workplace procedures for manual sorting, storage and labelling of timber boards
- timber types, including:
 - native timber species
 - imported timber species
 - dressed timber
 - in-the-rough timber
 - stress and non-stress graded timber
 - preservative treated timber
- characteristics used to manually sort timber boards, including:
 - type

- finish quality
- timber defects
- length
- width
- thickness
- typical timber defects and how they affect ability to produce a quality finished product, including:
 - incorrect moisture content
 - warp
 - wane
 - cupping
 - shakes
 - insect defects
 - knots
 - resin pockets
- range of industry standard lengths, cross-sections, appearance grades and applicable terminology
- markings used on timber boards to identify grade
- workflow processes used to manually sort timber boards
- flow of timber board supply in and out of sorting area
- storage layout and storage categories for timber boards
- methods to label timber in storage locations and common terms used
- purpose, features and operation of equipment used for sorting boards manually, including:
 - conveyor belt systems
 - track systems
 - lifting equipment including forklifts, slings, trolley jacks, gantry cranes, loaders
- workplace procedures specific to sorting timber boards manually, including:
 - health and safety, with particular emphasis on use of personal protective equipment (PPE) and other equipment
 - communication reporting lines
 - recording and reporting processing and equipment faults
- workplace environmental protection requirements and practices for timber processing operations, including:
 - cleaning of plant, tools and equipment
 - disposing of, recycling and reusing timber
 - safe disposal of waste material.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing plant, a timber product manufacturing plant or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - a selection of timber boards for sorting
 - equipment for sorting and transferring timber boards
 - PPE suitable for sorting timber boards manually
- specifications:
 - work order or instruction detailing board sorting requirement
 - workplace health and safety and environmental protection policies and/or procedures applicable to sorting timber boards manually.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSAW3232 Sharpen band saw blades

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to assess the condition of narrow and wide band saw blades, set up the sharpening machine and sharpen saw blades with a grinder.

The unit applies to individuals who sharpen band saws in a saw technician workshop or sawmill.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Sawmilling and Processing (SAW)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for sharpening	<p>1.1 Review work order to determine job requirements and, where required, seek clarification from appropriate personnel</p> <p>1.2 Review environmental protection procedures and workplace health and safety requirements, including the use of personal protective</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>equipment, equipment lock-out and safe manual handling techniques</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with sharpening operations</p> <p>1.4 Identify and implement workplace procedures for minimising waste material and maximising energy efficiency</p>
2. Assess band saw blade condition	<p>2.1 Assess condition of blade teeth and cutting performance of blade to determine the need to replace or sharpen</p> <p>2.2 Measure the kerf of the teeth before sharpening to ensure compliance with workplace standards</p> <p>2.3 Assess condition of prior repairs, blade teeth, set and tension</p>
3. Set up sharpening machine	<p>3.1 Select sharpening machine and perform pre-operational check to determine operational effectiveness of the machine</p> <p>3.2 Change or dress grinding wheel as required</p> <p>3.3 Adjust sharpening machine settings to suit required blade geometry, taking into account material to be sawn, speed and direction of sawing process and cutting angle for sawing</p> <p>3.4 Prepare grinding coolant system according to manufacturer instructions</p>
4. Sharpen band saw blade	<p>4.1 Set saw blade in the sharpening machine to manufacturer recommendations</p> <p>4.2 Align saw blade tooth with the machine feed mechanism</p> <p>4.3 Conduct tests to ensure teeth and machine feed mechanism are aligned</p> <p>4.4 Establish depth of machine cut and in-feed from blade condition</p> <p>4.5 Monitor machine sharpening process to ensure correct grinding conditions and geometry</p> <p>4.6 Finalise process and check the blade for sharpness, correct cutting angle and profile</p> <p>4.7 Identify damaged and exhausted saw blades and dispose of these according to environmental protection practices</p> <p>4.8 Package band saw for protection during return to service</p> <p>4.9 Identify routine processing and equipment faults, and resolve or report to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extracts essential information from operational manuals to determine safe operating procedures for sharpening machine
Writing	<ul style="list-style-type: none"> Prepares routine written reports using the required format, language and structure
Oral communication	<ul style="list-style-type: none"> Employs active listening and questioning to clarify content of work orders
Numeracy	<ul style="list-style-type: none"> Performs basic mathematical calculations to determine correct machine settings in relation to speed, pitch and angle Performs basic mathematical calculations to measure kerf and blade gauge to calculate side clearance
Navigate the world of work	<ul style="list-style-type: none"> Understands main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> Uses modes of communication suitable to purpose to confirm and clarify understanding
Get the work done	<ul style="list-style-type: none"> Recognises and responds to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPSAW3232 Sharpen band saw blades	FWPSAW3207 Sharpen band saws	Revised and split element 2; clarified performance evidence; minor edits to knowledge evidence; updated unit code and title for clarity and compliance	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSAW3232 Sharpen band saw blades

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has:

- sharpened one or more of the following types of saw blades:
 - narrow band saw blade
 - wide band saw blade
- followed work order and relevant workplace health and safety and environmental protection procedures
- assessed the cutting performance of the blade, taking into account:
 - saw performance balanced against achievement of required production time
 - degree of deviation in the range of sawn products
- assessed the condition of blade teeth for:
 - sharpness of each tooth
 - damage to teeth
 - straightness of teeth
 - kerf width
- set up the sharpening machine.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- basic knowledge of physics of sawing, including:
 - saw blade material and properties
 - impact of timber properties on saw blades
 - direction of cut
 - forces on a blade

- heat removal
- sawtooth configuration
- purpose, features and operation of band saws for which blades are sharpened
- features and names of different parts of band saw blades
- purpose, features and operation of tools and equipment used to sharpen band saw blades:
 - sharpening machines
 - grinding wheels
- importance of sharpening and setting teeth and tension to match requirements for:
 - characteristics of various materials sawn
 - speed of the sawing process
 - direction of the sawing process
 - hook/rake angles for sawing
 - saw blade specifications
- methods for:
 - assessing saw blade condition
 - sharpening blades to specified requirements
 - grinding teeth to a specified profile
 - tensioning blades to specified requirements
 - aligning saw teeth
- tooth pitch and tooth angles at which blades are sharpened (blade geometry)
- range of speeds at which abrasive wheels can be operated without damaging blades
- coolants used in the sharpening process, and impact on efficient sharpening
- types of risk and hazards, and mitigation measures associated with sharpening band saw blades
- workplace policies and procedures specific to sharpening band saw blades:
 - workplace health and safety, with particular emphasis on use of personal protective equipment (PPE) and safe manual handling techniques
 - communication reporting lines
 - recording and reporting of processing and equipment faults
- environmental protection practices for repairing and maintaining tools and equipment in sawmills:
 - reducing water and energy use
 - cleaning plant, tools and equipment
 - disposing of, recycling and reusing materials.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a saw technician workshop, a sawmill or an environment that accurately represents workplace conditions

- resources, equipment and materials:
 - sharpening machines
 - grinding wheels
 - grinding coolant where applicable
 - band saws for which blades are to be sharpened
 - one or more of the following types of band saw blades to be sharpened: wide band saw blades used for processing timber products, narrow band saw blades used for cutting both ferrous and non-ferrous materials
 - PPE suitable for sharpening band saw blades
- specifications:
 - manufacturer instructions for use, repair and maintenance of equipment
 - work order with specific instructions for sharpening band saw blades
 - template documents for recording equipment faults and maintenance requirements
 - workplace procedures for sharpening band saw blades.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSAW3233 Sharpen circular saw blades

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to assess and sharpen circular saw blades with an automatic or manually controlled grinder.

The unit applies to individuals who sharpen circular saw blades used in a saw technician workshop or timber processing facility.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Sawmilling and Processing (SAW)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for work	<p>1.1 Review work order to determine job requirements and, where required, seek clarification from appropriate personnel</p> <p>1.2 Review workplace health and safety procedures, including the use of personal protective equipment, equipment lock-out and safe manual</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>handling techniques</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with sharpening circular saw blades</p> <p>1.4 Identify workplace environmental protection procedures for minimising and disposing of waste material, cleaning tools and equipment, and maximising energy efficiency</p> <p>1.5 Select appropriate equipment for grinding, and check for safety and operational effectiveness according to manufacturer specifications</p>
2. Assess saw blade condition and set up the grinder	<p>2.1 Remove and replace saw blades from sawing equipment</p> <p>2.2 Assess cutting performance of the blade and determine the need to replace or sharpen</p> <p>2.3 Assess prior repairs and condition of teeth, set and straightness of blade</p> <p>2.4 Select grinding machine with suitable wheel characteristics, diameter and thickness and dress and profile wheel to match saw blade profile requirements</p> <p>2.5 Adjust grinding machine settings to suit required tooth profile geometry, blade set or kerf, blade thickness and diameter to manufacturer recommendations</p> <p>2.6 Set up saw blade in the grinder with appropriate attachments for tooth pitch</p>
3. Sharpen circular saw blade	<p>3.1 Grind saw blade body before sharpening the tooth to maintain clearance</p> <p>3.2 Grind tooth profiles to achieve required sharpness, surface finish and back clearance angle</p> <p>3.3 Maintain tooth profile to industry standards</p> <p>3.4 Keep variations in tooth height within industry or manufacturer tolerances for concentricity</p> <p>3.5 Control wheel and saw hand feeds to minimise wear, avoid burn marks and maintain smooth surface finish</p> <p>3.6 Identify damaged and exhausted circular saw blades and dispose of these according to workplace procedures and environmental protection practices</p> <p>3.7 Clean the work area and equipment</p> <p>3.8 Identify and record routine processing and equipment faults, and</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	resolve or report to appropriate personnel

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Numeracy	<ul style="list-style-type: none"> Performs precise mathematical calculations to determine correct specifications for grinding teeth to angle, pitch, tooth height and gullet depth Uses basic mathematical symbols and conventions in completing routine workplace reports
Navigate the world of work	<ul style="list-style-type: none"> Understands main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> Uses modes of communication suitable to purpose to confirm and clarify understanding
Get the work done	<ul style="list-style-type: none"> Recognises and responds to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPSAW3233 Sharpen circular saw blades	FWPSAW3208 Sharpen circular saws	Revised performance criteria and performance evidence to clarify tasks; minor updates to knowledge evidence; updated unit code and title for clarity and compliance	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSAW3233 Sharpen circular saw blades

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has:

- set up and operated a manually controlled grinder to sharpen one or both of the following types of circular saw blades:
 - circular crosscut blades
 - rip saw blades.

In doing the above job, the individual has:

- reviewed work order to determine job requirements
- followed relevant workplace health and safety and environmental protection procedures
- removed and replaced circular saw blades from the sawing equipment
- assessed cutting performance and determined need to replace or sharpen blades
- assessed condition of blade teeth, including:
 - sharpness of tooth cutting edges
 - angles within the tooth profile
 - tooth strength
 - damage to teeth
 - pitch
 - gullet depth
- sharpened circular saw blades according to workplace procedures
- cleaned work area and equipment
- identified routine processing and equipment faults, and resolved or reported to appropriate personnel.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- basic knowledge of physics of sawing, including:
 - saw blade material and properties
 - impact of timber properties on saw blades
 - direction of cut
 - forces on a blade
 - heat removal
 - sawtooth configuration
- purpose, features and operation of saws for which circular saw blades are sharpened
- features and names of different parts of circular saw blades
- purpose, features and operation of tools and equipment used to sharpen circular saw blades:
 - gulleting and grinding machines
 - machine attachments
 - abrasive wheels
 - hand-held tools
- importance of sharpening and setting teeth and tension to match requirements for:
 - characteristics of various materials sawn
 - speed of the sawing process
 - direction of the sawing process
 - cutting angle for sawing
 - saw blade specifications
- methods for:
 - removing saw blades from equipment
 - assessing saw blade condition
 - maintaining clearance between the body and the tooth of a saw blade
 - sharpening blades to specified requirements
 - grinding teeth to a specified profile
 - maintaining concentricity of teeth
- tooth pitch and tooth angles at which blades are sharpened (blade geometry)
- range of speeds at which abrasive wheels can be operated without damaging saw blades
- risks and hazards and mitigation measures associated with sharpening circular saw blades
- procedures specific to sharpening circular saw blades:
 - workplace health and safety, with particular emphasis on equipment lock-out, the use of personal protective equipment (PPE) and safe manual handling techniques
 - communication reporting lines
 - recording and reporting of processing and equipment faults

- environmental protection practices applied to saw technician workshops and timber processing facilities:
 - reducing water and energy use
 - cleaning plant, tools and equipment
 - disposing of, recycling and reusing materials.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a saw technician workshop, a timber processing facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - tools and equipment used to sharpen circular saw blades: gulleting and grinding machines, machine attachments, hand-held tools and abrasive wheels
 - saws for which circular saw blades are to be sharpened
 - one or more of the following types of circular saw blades to be sharpened: circular crosscut blades, rip saw blades
 - PPE suitable for sharpening circular saw blades
- specifications:
 - manufacturer instructions for use, repair and maintenance of equipment
 - work order with specific instructions for sharpening circular saw blades
 - template documents for recording operational problems and equipment faults
 - workplace procedures for sharpening circular saw blades.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSAW3234 File and set saw blades for hand saws and circular saws

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to file and set saw blades for hand saws and circular saws. This activity includes removing and replacing saw blades, positioning blades in jigs, stands or vices, producing bevels along the back clearance angles of teeth, checking blade clearance requirements and setting teeth to workplace requirements.

The unit applies to individuals who file and set saw blades in a saw technician workshop or timber processing facility.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Sawmilling and Processing (SAW)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for filing and	1.1 Review work order to determine job requirements and, where

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
setting saw blades	<p>required, seek clarification from appropriate personnel</p> <p>1.2 Review workplace health and safety procedures, including the use of personal protective equipment, equipment lock-out and safe manual handling techniques</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with filing and setting saws</p> <p>1.4 Identify workplace environmental protection procedures for minimising and disposing of waste material, cleaning tools and equipment, and maximising energy efficiency</p> <p>1.5 Select appropriate repair and maintenance equipment and check for operational effectiveness according to manufacturer recommendations</p> <p>1.6 Remove and replace saw blades according to safe work practices and manufacturer instructions</p>
2. File teeth	<p>2.1 Assess saw blade condition</p> <p>2.2 Select appropriate tools and equipment</p> <p>2.3 Sharpen saw blade to strip mark</p> <p>2.4 Check saw blade cutting edge is sharp with consistent angle face, back and corners</p> <p>2.5 Check tooth profiles are uniform and sharpened according to workplace procedures</p> <p>2.6 Inspect sharpened saw blade and identify sharpening defects</p> <p>2.7 Repair saw blade sharpening defects or remove the blade from service</p>
3. Set saw blade	<p>3.1 Set up saw blade in a selected jig to enable setting work</p> <p>3.2 Check kerf and finish requirements to suit machine horsepower, saw type, materials to be sawn and cutting conditions</p> <p>3.3 Examine individual teeth to check the amount of setting required</p> <p>3.4 Maintain consistency of set between alternate teeth</p> <p>3.5 Measure and assess teeth for the correct setting</p> <p>3.6 Bevel teeth and assess bevel length</p> <p>3.7 Apply set to teeth and allow for estimated spring back</p> <p>3.8 Check set to teeth using gauges according to workplace procedures</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	3.9 Identify routine processing and equipment faults, and resolve or report to appropriate personnel

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Numeracy	<ul style="list-style-type: none"> • Applies standard units of measurement in saw setting • Uses basic estimation skills to determine spring back • Interprets numerical information on a setting gauge
Navigate the world of work	<ul style="list-style-type: none"> • Understands main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> • Uses modes of communication suitable to purpose to confirm and clarify understanding
Get the work done	<ul style="list-style-type: none"> • Recognises and responds to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPSAW3234 File and set saw blades for hand saws and circular saws	FWPSAW3210 File and set saws	Clarified the type of sawing equipment for which saw blades are filed and set; updated unit code and title to reflect application and for compliance	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSAW3234 File and set saw blades for hand saws and circular saws

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has:

- followed work order and relevant workplace health and safety and environmental protection procedures
- removed and replaced saw blades from a hand saw, circular saw or both
- assessed saw blade condition through checking for each of the following:
 - cracks
 - altered state of tension in a blade from excessive heat during cutting
 - weaknesses or damage caused through the stress of bending teeth
- bevelled teeth and assessed bevel lengths, widths, angles and surface texture according to workplace procedures and production requirements
- set teeth and assessed conditions in line with standard operating procedures.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- purpose, features and operation of saws for which blades are filed and set:
 - hand saws
 - circular saws
- features and names of different parts of saw blades
- purpose, features and operation of tools and equipment used to file and set saw blades:
 - jigs
 - vices
 - setting instruments
 - levers and gauges

- automatic or hand-held grinders
- bevel files
- importance of setting teeth to match requirements for:
 - characteristics of various materials sawn
 - speed of the sawing process
 - direction of the sawing process
 - cutting angle for sawing
 - saw blade specifications
- methods for:
 - removing saw blades from saws
 - assessing saw blade condition
 - setting teeth to a specified profile
 - grinding and bevelling teeth to required shape, tolerance and pitch
 - compensating for the effects of spring back
- back clearance and face angles at which blades are bevelled (blade geometry)
- characteristics of metal used in saw blades
- causes and consequences of spring back
- types of risk and hazards and mitigation measures associated with filing and setting saw blades
- workplace policies and procedures specific to filing and setting saw blades:
 - workplace health and safety, with particular emphasis on equipment lock-out, the use of personal protective equipment (PPE) and safe manual handling techniques
 - communication reporting lines
 - recording and reporting of processing and equipment faults
- environmental protection practices applicable to saw technician workshops or timber processing facilities:
 - reducing water and energy use
 - cleaning plant, tools and equipment
 - disposing of, recycling and reusing materials.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a saw technician workshop, a timber processing facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - tools and equipment used to file and set saw blades: jigs, vices, setting instruments, levers and gauges, automatic or hand-held grinders, hand files
 - one or more of the following types of saws for which the saw blade is to be filed and set: hand saws, circular saws

- PPE suitable for filing and setting saw blades
- specifications:
 - template documents for recording processing and equipment faults
 - manufacturer instructions for use, repair and maintenance of equipment
 - work order with specific instructions for filing and setting saw blades in specified sawing equipment
 - workplace policies and procedures for filing and setting saw blades.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSAW3235 Recondition saw guides

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to review, adjust, grind or machine and replace guides in band saws to assure smooth and straight running.

The unit applies to individuals who recondition guides in a sawmill.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Sawmilling and Processing (SAW)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for reconditioning	<p>1.1 Review work order to determine job requirements and, where required, seek clarification from appropriate personnel</p> <p>1.2 Review workplace health and safety procedures, including the use of personal protective equipment, equipment lock-out and safe manual handling techniques</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with reconditioning saw guides</p> <p>1.4 Identify workplace environmental protection procedures for minimising and disposing of waste material, cleaning tools and equipment, and maximising energy efficiency</p> <p>1.5 Select appropriate repair and maintenance equipment, and check for operational effectiveness according to manufacturer recommendations</p> <p>1.6 Plan reconditioning process according to work order</p>
2. Recondition guides	<p>2.1 Review condition of saw guides to assess wear</p> <p>2.2 Select and position guides in guide holding attachment ready for reconditioning</p> <p>2.3 Examine, dress, replace or sharpen tooling according to safety procedures</p> <p>2.4 Set up reconditioning equipment</p> <p>2.5 Remove scored material from the guide by grinding or machining</p> <p>2.6 Select grinding or machining speeds and feeds to avoid burn marks on guides</p> <p>2.7 Recondition guides to meet geometric and lubrication requirements of sawing equipment</p>
3. Safely store guides ready for use	<p>3.1 Segregate and dispose of unserviceable guides according to environmental protection practices</p> <p>3.2 Identify and report low stock and shortages of new guides according to workplace procedures</p> <p>3.3 Identify routine processing and equipment faults, and resolve or report to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description

Skill	Description
Reading	<ul style="list-style-type: none"> Extracts essential information from operational manuals to determine safe operating procedures for equipment
Writing	<ul style="list-style-type: none"> Prepares routine written reports using the required format, language and structure
Oral communication	<ul style="list-style-type: none"> Employs active listening and questioning to clarify content of work orders
Numeracy	<ul style="list-style-type: none"> Completes precise calculations to determine the required tolerance for positioning guides and to reface guides to the correct size and angle Applies standard units of measurement in describing correct pitch and angle of guides Uses basic estimation skills to determine grinding wheel speed
Navigate the world of work	<ul style="list-style-type: none"> Understands main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> Uses modes of communication suitable to purpose to confirm and clarify understanding
Get the work done	<ul style="list-style-type: none"> Recognises and responds to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPSAW3235 Recondition saw guides	FWPSAW3211 Recondition guides	Revised element 2 and performance criteria for clarity; updated performance evidence for mapping; updated unit code and title for clarity and compliance	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSAW3235 Recondition saw guides

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has:

- followed work order and relevant workplace health and safety and environmental protection procedures
- assessed condition of the saw guide
- machined saw guide
- adjusted saw guide
- safely stored guides for use.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- purpose, features and operation of band saws for which guides are reconditioned
- features and names of different parts of guides and carriers
- purpose, features and operation of tools and equipment used to recondition guides and spacers:
 - grinding equipment
 - metal lathes
 - milling machines
 - router and jig
- importance of reconditioning worn guides and spacers to the specified profile for continued straight and smooth running of saw blades
- methods for:
 - assessing the condition of guides
 - grinding guide surface to restore it to a smooth flat surface using grinding equipment

- machining guide surface to restore it to a smooth flat surface using metal lathes or milling machines
- basic knowledge of physics of sawing:
 - saw blade material and properties
 - impact of timber properties on saw blades
 - direction of cut
 - forces on a blade
 - heat removal
- angles at which guides are ground or are machined (geometry)
- range of speeds at which grinders and machines can be operated without damaging guides and spacers
- types of risk and hazards and mitigation measures associated with reconditioning guides
- workplace policies and procedures specific to reconditioning guides:
 - workplace health and safety, with particular emphasis on equipment lock-out, use of personal protective equipment (PPE) and safe manual handling techniques
 - communication reporting lines
 - recording and reporting of processing and equipment faults
- environmental protection practices for repairing and maintaining tools and equipment in sawmills:
 - reducing water and energy use
 - cleaning plant, tools and equipment
 - disposing of, recycling and reusing materials.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a sawmill or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - one or more of the following tools and equipment used to recondition guides: grinding equipment, metal lathe, milling machines and router and jig
 - band saws with guides to be reconditioned
 - replacement guides
 - PPE suitable for reconditioning guides
- specifications:
 - template documents for recording processing and equipment faults
 - manufacturer instructions for use, repair and maintenance of equipment
 - work order with specific instructions for reconditioning guides in specified equipment
 - workplace procedures for reconditioning guides.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSAW3236 Sharpen tipped circular saw blades

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to assess the tipped circular saw blade condition, set up for sharpening, and sharpen saw blades with an automated grinder.

The unit applies to individuals who sharpen tipped circular saws in a saw technician workshop or sawmill.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Sawmilling and Processing (SAW)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for sharpening	<p>1.1 Review work order to determine job requirements and, where required, seek clarification from appropriate personnel</p> <p>1.2 Review workplace health and safety procedures, including the use of personal protective equipment, equipment lock-out and safe manual</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>handling techniques</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with sharpening tipped circular saws</p> <p>1.4 Identify workplace environmental protection procedures for minimising and disposing of waste material, cleaning tools and equipment, and maximising energy efficiency</p> <p>1.5 Select appropriate tools and equipment to sharpen tipped circular saw blades, and check for operational effectiveness according to manufacturer recommendations</p>
2. Assess tipped circular saw blade condition	<p>2.1 Assess cutting performance of blade and determine need to replace or sharpen</p> <p>2.2 Assess condition of prior repairs, teeth, kerf of the tips, and straightness of blade</p>
3. Set up sharpening equipment	<p>3.1 Select sharpening machine with suitable grinding wheel diameter, and change or dress grinding wheel as required</p> <p>3.2 Adjust machine settings to suit required blade geometry</p> <p>3.3 Set saw blade in the machine to ensure tooth profile and geometry are maintained</p> <p>3.4 Prepare grinding coolant system according to manufacturer instructions</p>
4. Sharpen tipped circular saw blade	<p>4.1 Select saw blade and grinding wheel angles, speeds and feeds to suit</p> <p>4.2 Sharpen tips to achieve required finish, maintaining original profile and pitch, according to industry standards</p> <p>4.3 Ensure variations in tooth height and depth of cut are within industry tolerances for concentricity</p> <p>4.4 Set stock removal rate, wheel speeds, and saw tooth feed rate to achieve industry standards of sharpness</p> <p>4.5 Remove tipped circular saw blades from sharpening equipment</p> <p>4.6 Dispose of unserviceable tipped circular saw blades according to environmental protection practices</p> <p>4.7 Identify routine processing and equipment faults, and resolve or report to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extracts essential information from operational manuals to determine safe operating procedures for equipment
Writing	<ul style="list-style-type: none"> Prepares routine written reports using required format, language and structure
Oral communication	<ul style="list-style-type: none"> Employs active listening and questioning to clarify content of work orders
Numeracy	<ul style="list-style-type: none"> Completes precise calculations to determine angle, pitch, height and depth to which machine teeth are to be machined Applies standard units of measurement in describing a correct angle, pitch height and depth of machine teeth
Navigate the world of work	<ul style="list-style-type: none"> Understands main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> Uses modes of communication suitable to purpose to confirm and clarify understanding
Get the work done	<ul style="list-style-type: none"> Recognises and responds to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPSAW3236 Sharpen tipped circular saw blades	FWPSAW3212 Sharpen tipped circular saws	Split element 2; minor updates to the knowledge evidence; updated unit code and title for clarity and compliance	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSAW3236 Sharpen tipped circular saw blades

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has:

- followed work order and relevant workplace health and safety and environmental protection procedures
- assessed the condition of blade teeth for:
 - sharpness of each tooth
 - damage to teeth
 - pitch
 - kerf width
- set up the sharpening machine
- sharpened tipped circular saw blades according to a work order and workplace requirements
- removed tipped circular saw blades from sharpening equipment.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- basic knowledge of physics of sawing, including:
 - saw blade material and properties
 - impact of timber properties on saw blades
 - direction of cut
 - forces on a blade
 - heat removal
 - sawtooth configuration
- purpose, features and operation of circular saws for which tipped blades are sharpened:

- circular saws for timber processing
- cold saws for ferrous and non-ferrous alloys
- features and names of different parts of circular saw blades
- purpose, features and operation of tools and equipment used to sharpen tipped circular saw blades:
 - automated grinding machine with manual or automatic adjustment
 - abrasive wheels
- coolants used in the sharpening process, and impact on efficient sharpening
- importance of sharpening and tension to match requirements for:
 - characteristics of various materials sawn
 - speed of the sawing process
 - direction of the sawing process
 - cutting angle for sawing
 - saw blade specifications
- methods for:
 - assessing saw blade condition
 - sharpening blades to specified requirements
 - setting teeth to a specified kerf
 - maintaining concentricity of teeth
- tooth pitch and tooth angles at which blades are sharpened (blade geometry)
- range of speeds at which abrasive wheels can be operated without damaging blades
- types of risk and hazards and mitigation measures associated with sharpening tipped circular saw blades
- workplace procedures specific to sharpening tipped circular saw blades:
 - workplace health and safety, with particular emphasis on safe manual handling and use of personal protective equipment (PPE)
 - communication reporting lines
 - recording and reporting processing and equipment faults
- environmental protection practices for repairing and maintaining tools and equipment in sawmills:
 - reducing water and energy use
 - cleaning plant, tools and equipment
 - disposing of, recycling and reusing materials.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a saw technician workshop, a sawmill or an environment that accurately represents workplace conditions
- resources, equipment and materials:

- tools and equipment used to sharpen tipped circular saw blades, including manually or automatically adjustable grinding machines, abrasive wheels and measuring equipment
- circular saws for which blades are to be sharpened, including circular saws and cold saws
- tipped circular saw blades for sharpening
- PPE suitable for sharpening tipped circular saw blades
- specifications:
 - template documents for recording processing and equipment faults
 - manufacturer instructions for use, repair and maintenance of equipment
 - work order with specific instructions for sharpening tipped circular saw blades
 - workplace procedures for sharpening tipped circular saw blades.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSAW3237 Level and tension circular saw blades

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to level and tension circular saw blades for circular saws and hot saws. This activity includes inspecting saws, repairing defects such as dished blades, damaged teeth and cracks, levelling ridges and lumps, and tensioning the saw.

The unit applies to individuals who level and tension circular saw blades in a saw technician workshop or timber processing facility.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Sawmilling and Processing (SAW)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for repair	1.1 Review work order to determine job requirements and, where required, seek clarification from appropriate personnel 1.2 Review workplace health and safety procedures, including the use

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>of personal protective equipment, equipment lock-out and safe manual handling techniques</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with levelling and tensioning circular saw blades</p> <p>1.4 Identify workplace environmental protection procedures for minimising and disposing of waste material, cleaning tools and equipment, and maximising energy efficiency</p> <p>1.5 Select appropriate repair and maintenance equipment, and check for operational effectiveness according to manufacturer recommendations</p>
2. Assess saw blade condition	<p>2.1 Remove and replace circular saw blades from sawing equipment</p> <p>2.2 Handle saws to avoid damaging teeth</p> <p>2.3 Clean foreign material on saw blade surfaces for inspection</p> <p>2.4 Inspect saw blade to assess the condition of teeth and saw plate</p> <p>2.5 Declare saw blade unserviceable where hazardous defects are found</p> <p>2.6 Segregate and dispose of unserviceable saw blades according to workplace procedures and environmental protection practices</p>
3. Level saw blades	<p>3.1 Assess and match radial, circular and diagonal lumps or ridges on both sides of the saw blade</p> <p>3.2 Use gauges and straight edges in radial and circular directions and monitor for accuracy</p> <p>3.3 Remove lumps, ridges or twists progressively using straight edges, hammers and levelling rolls</p> <p>3.4 Control hammering and rolling patterns to reduce internal blade stresses and avoid spring back and re-occurring defects</p>
4. Tension saw blades	<p>4.1 Assess consistency of required saw blade curvature with a straight edge or tension gauge</p> <p>4.2 Tension and check saw blade to ensure tension amount, distribution, placement and level follow manufacturer recommendations</p> <p>4.3 Complete repairs to damaged saw blades and dispose of irreparable saw blades according to environmental protection practices</p> <p>4.4 Identify routine processing and equipment faults, and resolve or</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	report to appropriate personnel

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Numeracy	<ul style="list-style-type: none"> • Completes precise calculations to correctly level and tension blades • Reads scales on tension gauges to measure results of hammering and/or rolling the blade • Uses standard units of measurement when taking readings from tension gauges
Navigate the world of work	<ul style="list-style-type: none"> • Understands main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> • Uses modes of communication suitable to purpose to confirm and clarify understanding
Get the work done	<ul style="list-style-type: none"> • Recognises and responds to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPSAW3237 Level and tension circular saw blades	FWPSAW3213 Level and tension circular saws	Minor changes; updated unit code and title for clarity and compliance	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSAW3237 Level and tension circular saw blades

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has:

- levelled and tensioned circular saw blades for one or both of the following types of saws:
 - circular saw
 - hot saw
- in doing the above job:
 - followed work order and relevant workplace health and safety and environmental protection procedures
 - removed and replaced circular saw blades from the saw
 - assessed circular saw blade conditions in line with standard operating procedures.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- basic knowledge of physics of sawing, including:
 - saw blade material and properties
 - impact of timber properties on saw blades
 - direction of cut
 - forces on a blade
 - heat removal
 - sawtooth configuration
- purpose, features and operation of saws for which blades are levelled and tensioned:
 - circular saws
 - hot saws
- features and names of different parts of different types of circular saw blades:

- circular crosscut blades
- rip saw blades
- purpose, features and operation of tools and equipment used to level and tension circular saw blades:
 - hammers
 - stretcher rolls
 - levelling rolls
 - heat tensioning instruments
 - gauges and straight edges
- importance of levelling and tensioning circular saw blades to match requirements for:
 - characteristics of various materials sawn
 - speed of the sawing process
 - direction of the sawing process
 - saw blade rim speed
 - saw blade specifications
- methods for:
 - removing saw blades from circular saws
 - assessing saw blade condition
 - levelling and tensioning blades to specified requirements
 - applying curvature
- characteristics of metal used in the circular saw blades, and range of force that can be applied without damaging blades
- workplace procedures specific to levelling and tensioning circular saw blades:
 - workplace health and safety, with particular emphasis on equipment lock-out, the use of personal protective equipment (PPE) and safe manual handling techniques
 - communication reporting lines
 - recording and reporting of processing and equipment faults
- environmental protection practices applied to saw technician workshops and timber processing facilities:
 - reducing water and energy use
 - cleaning plant, tools and equipment
 - disposing of, recycling and reusing materials.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a saw technician workshop, a timber processing facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:

- tools and equipment used to level and tension circular saw blades: hammers, stretcher rolls, levelling rolls, tensioning instruments, gauges and straight edges
- one or both of the following types of circular saws to be repaired or maintained: circular saws, hot saws
- circular saw blades for cutting timber products to be levelled and tensioned: circular crosscut blades, rip saw blades
- PPE suitable for levelling and tensioning circular saw blades
- specifications:
 - document, spreadsheets and proformas for recording processing and equipment faults
 - manufacturer instructions for use, repair and maintenance of equipment
 - work order with specific instructions for levelling and tensioning circular saw blades for specified sawing equipment
 - workplace procedures for levelling and tensioning circular saw blades.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSAW3238 Replace Stellite tips

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to remove worn Stellite tips from saw blades and to weld, anneal, clean and prepare replacement tips for grinding and return to service.

The unit applies to individuals who replace Stellite tips in a saw technician workshop or sawmill.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Sawmilling and Processing (SAW)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for replacement	1.1 Review work order to determine job requirements and, where required, seek clarification from appropriate personnel 1.2 Review environmental protection procedures and workplace health and safety requirements, including the use of personal protective

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>equipment, equipment lock-out and safe manual handling techniques</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with replacing Stellite tips</p> <p>1.4 Identify and implement workplace procedures for minimising waste material and maximising energy efficiency</p> <p>1.5 Select appropriate tools and equipment, and check for operational effectiveness according to manufacturer recommendations</p> <p>1.6 Plan replacement process according to work order</p>
2. Prepare tips	<p>2.1 Remove and replace saw blade according to manufacturer instructions</p> <p>2.2 Clean saw of foreign matter and check for defects</p> <p>2.3 Assess saw blade and tip cutting edge condition</p> <p>2.4 Determine tips requiring replacement and compare, check and mark against tolerances</p> <p>2.5 Clean saw, tip and machine contact surfaces to ensure set-up accuracy and efficient heat flow during silver brazing and welding</p>
3. Replace tips	<p>3.1 Set up saw in brazing jig/tipping machine in line with manufacturer instructions</p> <p>3.2 Select consumable material and a suitable technique for application and heat control</p> <p>3.3 Braze or weld one tip into position and check the replacement tip meets enterprise clearance specifications</p> <p>3.4 Trial braze or weld one tip and make necessary adjustments to confirm new tip has correct height, hook angle and side clearances</p> <p>3.5 Set manual or automatic feeds according to the number of tips to be welded</p> <p>3.6 Complete tip replacement and, when required, adjust annealing temperature to the specified range</p> <p>3.7 Repair damaged tips and dispose of irreparable tips according to environmental protection requirements</p> <p>3.8 Clean saw blade and tip surface before checking tip tolerances against specifications</p> <p>3.9 Identify routine processing and equipment faults, and resolve or report to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extracts essential information from operational manuals to determine safe operating procedures for equipment
Writing	<ul style="list-style-type: none"> Prepares routine written reports using the required format, language and structure
Oral communication	<ul style="list-style-type: none"> Employs active listening and questioning to clarify content of work orders
Numeracy	<ul style="list-style-type: none"> Uses standard units of measurement and symbols for temperature and volume Uses basic arithmetic skills to determine amount of brazing material required when replacing tips
Navigate the world of work	<ul style="list-style-type: none"> Understands main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> Uses modes of communication suitable to purpose to confirm and clarify understanding
Get the work done	<ul style="list-style-type: none"> Recognises and responds to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPSAW3238 Replace Stellite tips	FWPSAW3219 Replace stellite tips	Revised performance criteria of element 3; clarified performance evidence; minor edits to knowledge evidence; corrected typographical error in the title, and changed unit code for compliance	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSAW3238 Replace Stellite tips

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has:

- followed work order and relevant workplace health and safety and environmental protection procedures
- assessed condition of Stellite tips
- prepared tips for replacement
- removed and replaced Stellite tips, including:
 - brazed or welded new Stellite tips onto the tooth face or tooth seat
 - replaced tips that are broken, missing or worn out
 - rebuilt broken or damaged tips.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- basic knowledge of physics of sawing, including:
 - saw blade material and properties
 - impact of timber properties on saw blades
 - direction of cut
 - forces on a blade
 - heat removal
 - sawtooth configuration
- purpose, features and operation of saw blades that use Stellite tips:
 - band saw blades
 - circular saw blades
- features and names of different parts of saw blades
- purpose, features and operation of tools and equipment used to replace Stellite tips:

- automatic or semi-automatic tipping machines
- brazing equipment and brazing material
- brazing jigs
- methods for:
 - removing saw blades from sawing equipment
 - assessing saw blade condition
 - removing Stellite tips from saw blades
 - brazing and welding new Stellite tipped teeth onto the tooth face or gullet
- annealing processes and temperatures for Stellite tips and saw blades
- appropriate tolerances for weld deposits and replacement tip sizes
- characteristics of metal used in saw blades, and effects of brazing and welding on saw steel
- types of risk and hazards and mitigation measures associated with replacing Stellite tips
- workplace procedures specific to replacing Stellite tips:
 - workplace health and safety, with particular emphasis on equipment lock-out, use of personal protective equipment (PPE) and safe manual handling techniques
 - communication reporting lines
 - recording and reporting of processing and equipment faults
- environmental protection practices for repairing and maintaining saw blades:
 - reducing water and energy use
 - cleaning plant, tools and equipment
 - disposing of, recycling and reusing materials.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a saw technician workshop, a sawmill or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - one or more of the following types of tools and equipment used to replace Stellite tips: automatic or semi-automatic tipping machines, brazing equipment, brazing jigs
 - one or more of the following types of saw blades to be repaired and maintained: band saw blades, circular saw blades
 - Stellite tips
 - brazing material including silver alloy, special shock absorbing shim, flux in the form of a liquid or paste
 - PPE suitable for replacing Stellite tips
- specifications:
 - documents, spreadsheets and proformas for recording processing and equipment faults
 - manufacturer instructions for use, repair and maintenance of equipment

- work order for repair and maintenance activities, with specific instructions for replacing Stellite tips in specified equipment
- workplace procedures for replacing Stellite tips.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSAW3239 Assess and maintain wide band saw blades

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to level, tension, back gauge, weld and replace teeth on wide band saw blades that are over 70mm in width.

The unit applies to individuals who maintain wide band saw blades in a forest and forest product factory setting.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Sawmilling and Processing (SAW)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for maintenance	<p>1.1 Review work order to determine job requirements and, where required, seek clarification from appropriate personnel</p> <p>1.2 Review environmental protection procedures and workplace health and safety requirements, including the use of personal protective</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>equipment, equipment lock-out and safe manual handling techniques</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with maintaining wide band saw blades</p> <p>1.4 Identify and implement workplace procedures for minimising waste material and maximising energy efficiency</p> <p>1.5 Select appropriate tools and equipment, and check for operational effectiveness according to manufacturer recommendations</p> <p>1.6 Plan maintenance process according to work order and workplace requirements</p>
2. Assess saw blade condition	<p>2.1 Remove wide band saw blade from machinery</p> <p>2.2 Handle saw blade to avoid damaging teeth</p> <p>2.3 Clean foreign material from blade surfaces</p> <p>2.4 Inspect saw blade to assess the condition of teeth, tips and saw blade</p> <p>2.5 Check and mark teeth or tips requiring repair or replacement</p> <p>2.6 Declare saw blades unserviceable where hazardous defects are found, or blade has become too narrow for use</p> <p>2.7 Segregate and dispose of unserviceable saw blades according to workplace procedures and environmental protection practices</p>
3. Level, tension and back gauge saw blade	<p>3.1 Use a straight edge to identify lumps and ridges across and along saw blade on both sides of the blade</p> <p>3.2 Remove ridges or lumps progressively by levelling the saw blade with hammers, levelling attachments or stretcher rolls</p> <p>3.3 Control rolling patterns to induce the correct amount of tension into the saw blade</p> <p>3.4 Use a tension gauge of appropriate curvature to verify the saw blade has sufficient tension, and tension is correctly positioned across the blade and is evenly distributed along the length of the blade</p> <p>3.5 Use an accurate back-gauge to check back length, and roll nonconforming areas to adjust back length to workplace tolerance</p>
4. Repair teeth and blade cracks	<p>4.1 Place saw blade in welding jig for heat application and welding activities</p> <p>4.2 Check amount of damaged tooth to be removed or crack to be repaired and mark weld line</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>4.3 Remove metal to proposed line, prepare the edge for welding and clean burn marks</p> <p>4.4 Apply heat and pressure to prepare worn, broken or ground surface for metal build-up or replacement</p> <p>4.5 Build up or replace teeth or cracked area using material and processes that ensure specified metal penetration and density</p> <p>4.6 Use weld run-off tabs to limit stress and hollows at edges of the saw blade</p> <p>4.7 Grind or file teeth or cracks to required shape, tolerance and pitch</p> <p>4.8 Dispose of saws with irreparable teeth, tips or blades according to workplace procedures and environmental protection practices</p> <p>4.9 Identify routine processing and equipment faults, and resolve or report to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extracts essential information from operational manuals to determine safe operating procedures for equipment
Writing	<ul style="list-style-type: none"> Prepares routine written reports using the required format, language and structure
Oral communication	<ul style="list-style-type: none"> Employs active listening and questioning to clarify content of work orders
Numeracy	<ul style="list-style-type: none"> Uses a gauge to measure results of hammering and/or rolling the blade
Navigate the world of work	<ul style="list-style-type: none"> Understands main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> Uses modes of communication suitable to purpose to confirm and clarify understanding
Get the work done	<ul style="list-style-type: none"> Recognises and responds to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPSAW3239 Assess and maintain wide band saw blades	FWPSAW3220 Maintain wide band saw blades	Reworded application statement for clarity; revised performance criteria of element 3; updated performance evidence for mapping; updated knowledge evidence and assessment conditions for clarity and mapping; updated unit code and title to reflect changes and for compliance	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSAW3239 Assess and maintain wide band saw blades

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has:

- followed work order and relevant workplace health and safety and environmental protection procedures
- removed and replaced saws from equipment
- assessed saw condition
- levelled, tensioned and measured the back-crown of the saw blade
- repaired teeth and blade cracks
- used welding processes and materials to produce:
 - weld beads that provide full penetration fusing together adjacent metal parts
 - welds free from any faults that would have the potential to weaken the strength and endurance capability of the weld deposit and weld zone.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- purpose, features and operation of wide band saw blade for which repairs are completed
- features and names of different parts of wide band saw blades
- purpose, features and operation of tools and equipment used to repair and maintain wide band saw blades:
 - hammers
 - stretcher or tension rolls
 - levelling rolls
 - tension gauges and straight edges, back-gauges
 - welding equipment and welding materials

- importance of levelling and tensioning blades and applying curvature to match workplace requirements for:
 - characteristics of various materials sawn
 - speed of the sawing process
 - direction of the sawing process
 - saw blade specifications
- methods for:
 - removing saw blades from band saws
 - assessing saw blade condition
 - levelling and tensioning blades to specified requirements
 - assessing curvature
 - welding to build up and replace teeth
 - grinding and filing rebuilt or replaced teeth to required shape, tolerance and pitch
- basic knowledge of physics of sawing:
 - saw blade material and properties
 - impact of timber properties on saw blades
 - direction of cut
 - forces on a blade
 - heat removal
 - sawtooth configuration
- characteristics of metal used in wide band saw blades, and range of forces which can be applied without damaging blades
- types of risk and hazards and mitigation measures associated with maintaining wide band saw blades
- workplace procedures specific to maintaining wide band saw blades:
 - workplace health and safety, with particular emphasis on equipment lock-out, use of personal protective equipment (PPE) and safe manual handling techniques
 - communication reporting lines
 - recording and reporting of processing and equipment faults
- environmental protection practices for repairing and maintaining tools and equipment in sawmills:
 - reducing water and energy use
 - cleaning plant, tools and equipment
 - disposing of, recycling and reusing materials.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a sawmill or an environment that accurately represents workplace conditions

- resources, equipment and materials:
 - hammers
 - stretcher or tension rolls
 - levelling rolls and attachments
 - tension gauges and straight edges, back-gauges
 - welding equipment
 - heating and annealing equipment
 - welding jigs
 - run-on and run-off tabs
 - punches
 - engineers' hammers
 - angle grinders
 - sanders
 - hand files
 - abrasive paper or cloth
 - welding material
 - wide band saw blades to be maintained
 - PPE suitable for repairing and maintaining wide band saw blades
- specifications:
 - manufacturer instructions for use, repair and maintenance of equipment
 - work order with specific instructions for repairing wide band saw blades
 - documents, spreadsheets and proformas for recording processing and equipment faults
 - workplace procedures for maintaining wide band saw blades.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSAW3240 Assess and maintain band saw wheels

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to fit special wheel dressing equipment to band mill wheels, resurface the wheel profiles and re-assemble the band mill in readiness for production.

The unit applies to individuals who recondition band saw wheels in forest and forest product factory settings.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Sawmilling and Processing (SAW)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for reconditioning	1.1 Review work order to determine job requirements and, where required, seek clarification from appropriate personnel 1.2 Review environmental protection procedures and workplace health and safety requirements, including use of personal protective

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>equipment, equipment lock-out and safe manual handling techniques</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with reconditioning band saw wheels</p> <p>1.4 Identify and implement workplace procedures for minimising waste material and maximising energy efficiency</p> <p>1.5 Select appropriate tools and equipment, and check for operational effectiveness according to manufacturer recommendations</p>
2. Assess and resurface wheel profile	<p>2.1 Inspect and measure band wheel to identify wear and level of stock removal required</p> <p>2.2 Service, fit and align wheel resurfacing equipment to band wheel according to manufacturer instructions and recommended tolerances</p> <p>2.3 Make a trial cut to check and further align resurfacers</p> <p>2.4 Dress band wheel to remove all wear, ensuring face is not hollow</p> <p>2.5 Control resurfacing feeds to obtain required band wheel profile and finish</p> <p>2.6 Measure band wheel to ensure wheel diameter meets workplace requirements</p> <p>2.7 Measure band wheel profile to ensure resurfacing has achieved required profile</p>
3. Re-assemble band saw	<p>3.1 Remove resurfacing equipment and base plate from band saw when resurfacing is complete</p> <p>3.2 Re-assemble band saw components according to manufacturer instructions</p> <p>3.3 Set up band saw blade on saw according to the specified alignment</p> <p>3.4 Test the band saw blade and saw to ensure correct operation</p> <p>3.5 Remove isolation padlocks or tags at the completion of work according to workplace safety procedures</p> <p>3.6 Identify routine processing and equipment faults, and resolve or report to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extracts essential information from operational manuals to determine safe operating procedures for equipment
Writing	<ul style="list-style-type: none"> Prepares routine written reports using the required format, language and structure
Oral communication	<ul style="list-style-type: none"> Employs active listening and questioning to clarify content of work orders
Numeracy	<ul style="list-style-type: none"> Uses measuring equipment to take wheel measurements accurately Performs precise calculations to determine wheel alignment, alignment of saw guides to wheel faces and wheel thickness Uses standards units of measurement for speed and dimension Uses basic mathematical skills to: <ul style="list-style-type: none"> calculate the position of a crown given wheel face width calculate the position of a crown given maximum and minimum saw blade widths calculate crown height given wheel diameter or circumference
Navigate the world of work	<ul style="list-style-type: none"> Understands main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> Uses modes of communication suitable to purpose to confirm and clarify understanding
Get the work done	<ul style="list-style-type: none"> Recognises and responds to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPSAW3240 Assess and maintain band saw wheels	FWPSAW3222 Recondition band mill wheels	Updated unit code and title for clarity and compliance; revised workplace health and safety requirements; revised performance evidence for clarity and mapping	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSAW3240 Assess and maintain band saw wheels

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has:

- followed work order and relevant workplace health and safety and environmental protection procedures
- assessed condition of the band saw wheels
- resurfaced the faces of the band saw wheels to the specified requirements
- re-assembled the band saw components
- set up a band saw blade on the saw to the specific alignment
- tested operational effectiveness of the band saw.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- purpose, features and operation of the band saw wheels
- features and names of different parts of band saws
- purpose, features and operation of tools and equipment used to recondition band saw wheels:
 - resurfacing equipment
 - measuring equipment
- importance of aligning band saw wheels for continued accuracy during band saw operation
- methods for:
 - assessing the condition of band saw wheels
 - resurfacing the faces of the band saw wheels to specified requirements
 - re-assembling band saw components
 - setting up band saw blades on the saw to a specific alignment

- testing operational effectiveness of band saws
- wheel profiles and appropriate tolerances
- range of speeds at which resurfacers can be operated without damaging band saw wheels
- types of risk and hazards and mitigation measures associated with resurfacing band saw wheels
- workplace procedures specific to resurfacing band saw wheels:
 - workplace health and safety, with particular emphasis on equipment lock-out, use of personal protective equipment (PPE) and safe manual handling techniques
 - communication reporting lines
 - recording and reporting of processing and equipment faults
- environmental protection practices for repairing and maintaining equipment in sawmills:
 - reducing water and energy use
 - cleaning plant, tools and equipment
 - disposing of, recycling and reusing materials.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a sawmill or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - resurfacing or wheel grinding equipment
 - measuring equipment
 - band saws, including the entire mechanical structure and componentry that make up the machine
 - band wheels to be resurfaced
 - PPE suitable for reconditioning band saw wheels
- specifications:
 - manufacturer instructions for use, repair and maintenance of equipment
 - work order with specific instructions for resurfacing band saw wheels in specified equipment
 - template documents for recording processing and equipment faults
 - workplace procedures for reconditioning band saw wheels.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSAW3242 Treat timber

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to chemically treat timber, including planning for chemically treating timber, safely handling and storing chemicals, operating treatment equipment, and undertaking basic maintenance of treatment equipment.

The unit applies to individuals who treat timber in a timber treatment plant or sawmill. Specific job roles can include treatment plant operator, kiln operator or timber products technician.

Licensing, legislative, regulatory, or certification requirements apply to this unit in some states and territories at the time of publication and may differ according to jurisdiction.

In Victoria, to comply with licence/permit requirements, organisations must ensure that employees working with copper chrome arsenate (CCA) demonstrate competence in this unit (FWPSAW3242 Treat timber), or that persons working with CCA do so under the direct supervision (sight and sound) of a trained and authorised person.

For regulatory information and details in other states and territories, refer to the relevant state or territory licensing body.

Pre-requisite Unit

Nil

Unit Sector

Sawmilling and Processing (SAW)

Elements and Performance Criteria

Elements	Performance Criteria
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<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for treating timber	1.1 Review work order to determine job requirements and, where required, seek clarification from appropriate personnel 1.2 Review workplace health and safety procedures, including the use of personal protective equipment, equipment lock-out and safe manual handling techniques 1.3 Identify, assess and take actions to mitigate risks and hazards associated with treating timber 1.4 Identify workplace environmental protection procedures for minimising and disposing of waste material, cleaning tools and equipment, and maximising energy efficiency 1.5 Obtain chemicals and type and quantity of timber for treatment from storage 1.6 Plan treating cycles according to work order
2. Use equipment to treat timber	2.1 Complete pre-start-up equipment checks to ensure operational effectiveness 2.2 Identify water requirements and check to ensure treatment process requirements are met 2.3 Test moisture content of timber according to workplace procedures 2.4 Check, adjust and maintain strength and volume of preservative solution at specified strength and volume 2.5 Bring treating plant to full operating condition, and regularly check operating parameters to ensure optimum output 2.6 Load timber into treatment vessel and complete treatment cycles 2.7 Brand treated timber in line with organisational procedures 2.8 Safely handle treated timber and transfer to the storage area 2.9 Record outcomes of timber treatment process, and report to appropriate personnel
3. Complete operator maintenance	3.1 Lock out equipment according to workplace safety procedures 3.2 Conduct basic routine checks and maintenance of treatment equipment according to manufacturer specifications 3.3 Store chemicals according to workplace safety procedures, and report on stock levels 3.4 Record faults or incidents related to treatment equipment and chemical use and storage, and report to appropriate personnel

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extracts essential information from safety data sheets, or equivalent plain English information on safe use, handling, transport and disposal of timber treatment chemicals
Writing	<ul style="list-style-type: none"> Accurately completes basic workplace forms and records for chemical stock levels, processes and equipment faults
Oral communication	<ul style="list-style-type: none"> Employs active listening and questioning to clarify the content of work orders
Numeracy	<ul style="list-style-type: none"> Performs basic mathematical calculations to determine routine solution strengths and retention rates for preservative solutions Completes basic measurements of moisture content in timber Identifies quantities of required timber within work orders, and counts numbers for treatment
Navigate the world of work	<ul style="list-style-type: none"> Understands main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> Uses modes of communication suitable to purpose to confirm and clarify understanding
Get the work done	<ul style="list-style-type: none"> Recognises and responds to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPSAW3242 Treat timber	FWPSAW3201 Treat timber	Reworded application statement and performance evidence for clarity; updated requirements regarding workplace health and safety and environmental protection in performance criteria and performance evidence to match knowledge evidence; updated foundation skills	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSAW3242 Treat timber

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least on one occasion, the individual has:

- completed the chemical treatment process according to an individual work order for one of the following timber types:
 - timber from native species
 - timber from imported species
 - dressed timber
 - stress and non-stress graded timber
 - in-the-rough timber
 - sleepers
 - logs, rounded poles
 - beams, laminated beams
- during the treatment process, checked, adjusted and maintained the strength and volume for one of the following types of preservative solutions:
 - water-borne solutions
 - oil-based solutions
 - solvent-based solutions
- during the treatment process, complied with:
 - workplace health and safety requirements for chemically treating timber
 - environmental protection procedures for chemically treating timber
- at the completion of the treatment process, completed each of the following three tasks:
 - conducted routine operator equipment maintenance
 - safely stored chemicals
 - reported on stock levels.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- purpose of treating timber
- characteristics of timber types, effects of the treatment process and appropriate range of temperatures
- properties, at a basic level of understanding, of the following water-borne, oil-based and solvent-based chemicals used to treat timber, and their purpose:
 - creosote and modified creosote-based
 - copper chrome arsenate (CCA) salts
 - compounds of boron and fluoride salts
 - alkaline copper quaternary (ACQ)
 - light organic solvent-borne preservative (LOSP)
 - micronised copper azole (MCA or Tanalith E)
- risks and hazards associated with handling and using chemicals, and methods used to minimise these
- safety sign and symbols related to chemical use in the workplace
- typical workflow processes and techniques for chemically treating timber:
 - full cell
 - modified cell
 - empty cell
 - immersion
 - rueping
 - double vacuum
 - dip diffusion
 - vat and sprays
- methods used to brand treated timber and range of industry and organisation markings:
 - burning
 - hammer impressions
 - ink
 - tags
- purpose, features and operation of equipment used to treat timber chemically:
 - treatment cylinders
 - working tanks
 - mix tanks
 - concentrate storage tanks
 - effluent tanks
 - vacuum pump and seals
- storage layout and categories for:
 - raw materials

- storing finished timber
- chemicals and preservative solutions
- environmental protection practices for chemically treating timber:
 - disposing of hazardous substances
 - reducing water and energy use
 - water management strategies
 - cleaning plant, tools and equipment
- workplace procedures for chemically treating timber:
 - workplace health and safety, with particular emphasis on equipment lock-out, use of personal protective equipment (PPE), safety data sheets, handling, transporting and storing chemicals and hazardous substances, and responding to chemical-related incidents
 - communication reporting lines
 - recording and reporting chemical stock levels, processes and equipment faults.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber treatment plant or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - one or more of the following types of equipment used to treat timber chemically: treatment cylinders, working tanks, mix tanks, concentrate storage tanks, effluent tanks
 - branding equipment and consumables
 - PPE suitable for chemically treating timber
 - timber to be chemically treated
 - one or more of the following types of preservative solution: water-borne solutions, oil-based solutions or solvent-based solutions
- specifications:
 - manufacturer safety data sheets or equivalent plain English information for chemicals and preservative solutions
 - work order with specific instructions for the chemical treatment of timber
 - template documents for recording chemical stock levels, processes and equipment faults
 - workplace procedures for chemically treating timber.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards. A suitably licensed person must be present to monitor and supervise the handling of CCA during assessment.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSAW3244 Align sawing production systems

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to align chipper heads and circular or band sawing machines, including the feeding system, and prepare machines for return to production.

The unit applies to individuals who align sawing production systems in a sawmill.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Sawmilling and Processing (SAW)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for work	1.1 Review work order to determine job requirements and, where required, seek clarification from appropriate personnel 1.2 Review workplace health and safety requirements, including the use of personal protective equipment, equipment lock-out and safe

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>manual handling techniques</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with aligning sawing production systems</p> <p>1.4 Identify workplace environmental protection procedures for minimising and disposing of waste material, cleaning tools and equipment, and maximising energy efficiency</p> <p>1.5 Select appropriate tools and equipment for the work task and check for safety and operational effectiveness according to manufacturer specifications</p> <p>1.6 Access and interpret machine records and manufacturer manuals, and assess machine performance</p>
2. Conduct shutdown	<p>2.1 Implement equipment lock-out procedures according to workplace safety procedures and manufacturer instructions</p> <p>2.2 Remove, replace and temporarily store mechanical components to provide access to alignment parts</p> <p>2.3 Remove, replace and temporarily locate guides</p> <p>2.4 Keep the work area clear of dust, off-cuts and debris according to workplace safety procedures</p>
3. Align chipper heads	<p>3.1 Align chipper head and feed system components according to manufacturer instructions</p> <p>3.2 Check chipper head for free operation according to manufacturer instructions</p> <p>3.3 Replace blades and knives and prepare machine for return to production</p> <p>3.4 Record and report corrective actions that are taken to realign chipper heads</p>
4. Align sawing machines	<p>4.1 Identify conditions related to saw blades and accuracy of cuts that indicate that sawing machine is out of alignment</p> <p>4.2 Check alignment of the sawing machine according to manufacturer and workplace procedures</p> <p>4.3 Establish current alignment of sawing machine, identifying corrective actions required</p> <p>4.4 Align machine to infeed and outfeed system according to manufacturer instructions</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>4.5 Align feed systems components to the line of feed according to manufacturer instructions</p> <p>4.6 Align guiding system to the line of feed according to manufacturer instructions</p> <p>4.7 Align saw blades to the line of feed according to manufacturer instructions</p> <p>4.8 Replace all tools and machine components and re-assemble machine for return to production</p> <p>4.9 Record and report corrective actions that are taken to realign sawing machine</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extracts essential information from complex technical documents and manuals to determine safe alignment procedures
Writing	<ul style="list-style-type: none"> Prepares routine written reports using the required format, language and structure
Oral communication	<ul style="list-style-type: none"> Employs active listening and questioning to clarify content of equipment history records
Numeracy	<ul style="list-style-type: none"> Performs precise mathematical calculations to determine the correct alignment of key parts of the sawing system according to specified settings Uses basic mathematical symbols and conventions in completing workplace reports related to alignment activities
Navigate the world of work	<ul style="list-style-type: none"> Understands main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> Uses modes of communication suitable to purpose to confirm and clarify understanding
Get the work done	<ul style="list-style-type: none"> Recognises and responds to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPSAW3244 Align sawing production systems	FWPSAW3209 Align sawing production systems	Reworded application statement; updated element 3 and further specified tasks in element 4; updated performance criteria, knowledge evidence and assessment conditions for mapping	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSAW3244 Align sawing production systems

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has:

- aligned the following types of sawing production systems:
 - chipper head
 - circular and band sawing machines and feed systems including line bars and carriages
- in doing the above job, the individual has:
 - followed work order and relevant workplace health and safety and environmental protection procedures
 - implemented equipment shutdown procedures
 - assessed the performance of sawing machine and system
 - re-assembled sawing production systems and tested for operational effectiveness
 - identified routine processing and equipment faults and resolved or reported to appropriate personnel.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- purpose, features and operation of:
 - chipper heads
 - sawing machines and feed systems including line bars and carriages
- purpose, features and operation of tools and equipment used to align sawing production systems
- advantages and disadvantages of using laser or surveying equipment to conduct major alignments
- conditions related to saw blades and accuracy of cuts that indicate that sawing machine is out of alignment

- reasons for aligning various parts of sawing systems:
 - reducing sawing deviation, vibration, and downtime
 - increasing production rates
 - improving quality of sawn finish
- identification of alignment factors that will impact on the performance of the sawing production systems
- methods for:
 - assessing machine and system performance against recovery percentages, product sizing and/or standard deviation
 - dismantling mechanical components of production machines
 - aligning chipper heads
 - aligning sawing machines
 - re-assembling production machines and testing operational effectiveness
- tools and equipment used to align sawing production systems:
 - tools for removing and adjusting mechanical parts
 - jigs
 - precision measuring equipment
 - portable electrical lighting
 - feeler gauges
 - engineers' rules
 - vernier callipers
 - micrometers
 - plumb lines
 - piano wire or string lines
 - pointer
 - markers
- types of risks and hazards and mitigation strategies associated with aligning saw production systems
- workplace policies and procedures specific to aligning sawing production systems:
 - workplace health and safety, with particular emphasis on equipment lock-out, use of personal protective equipment (PPE) and safe manual handling
 - communication reporting lines
 - recording and reporting of processing and equipment faults.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a sawmill or an environment that accurately represents workplace conditions
- resources, equipment and materials:

- tools and equipment for aligning sawing production systems
- wood chipping equipment
- sawing machines and feed systems, including line bars and carriages
- PPE suitable for aligning sawing production systems
- specifications:
 - manufacturer instructions for use, repair and maintenance of equipment
 - work order with specific instructions for aligning sawing production systems in specified equipment
 - equipment history records
 - template documents for recording operational problems and equipment faults
 - workplace procedures for aligning sawing production systems.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSAW3245 Join band saw blades

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to assess the condition of band saw blades, prepare and weld meeting ends and finish the welded surface ready for operation.

The unit applies to individuals who join band saw blades in a saw technician workshop or sawmill.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Sawmilling and Processing (SAW)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for joining	<p>1.1 Review work order to determine job requirements and, where required, seek clarification from appropriate personnel</p> <p>1.2 Review workplace health and safety procedures, including the use of personal protective equipment, equipment lock-out and safe manual</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>handling techniques</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with joining band saw blades</p> <p>1.4 Identify workplace environmental protection procedures for minimising and disposing of waste material, cleaning tools and equipment, and maximising energy efficiency</p> <p>1.5 Select appropriate repair and maintenance equipment and check for operational effectiveness according to manufacturer recommendations</p>
2. Join or repair band saw blade	<p>2.1 Obtain saw blank and cut to length or cut existing blade at weld defect</p> <p>2.2 Trim ends to obtain correct back alignment and pitch and/or shape to assist metal penetration</p> <p>2.3 Set up and pre-heat blade ends and jig to specified tolerances</p> <p>2.4 Apply weld to ensure metal penetrates through blade thickness and is protected from accidental contact</p> <p>2.5 Loosen clamps and anneal joint immediately after welding</p> <p>2.6 Grind surplus weld material from blade without overheating</p>
3. Finish band saw blade	<p>3.1 Finish blade to eliminate bumps in blade surface</p> <p>3.2 Identify damaged blades or those with sub-standard joints, and dispose of these according to environmental protection practices</p> <p>3.3 Package band saw for protection during return to service</p> <p>3.4 Identify routine processing and equipment faults and resolve or report to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extracts key information from operational manuals to determine safe operating procedures for equipment

Skill	Description
Writing	<ul style="list-style-type: none"> Prepares routine written reports using required format, language and structure
Oral communication	<ul style="list-style-type: none"> Employs active listening and questioning to clarify content of work orders
Numeracy	<ul style="list-style-type: none"> Completes precise calculations to determine if a blade will fit on the band saw when shortened Uses standard units of measurement when marking out blanks for cutting to length Uses arithmetic skills to calculate position of cutting lines to maintain correct tooth pitch
Navigate the world of work	<ul style="list-style-type: none"> Understands main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> Uses modes of communication suitable to purpose to confirm and clarify understanding
Get the work done	<ul style="list-style-type: none"> Recognises and responds to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPSAW3245 Join band saw blades	FWPSAW3214 Join band saw blades	Reworded application statement; updated workplace health and safety requirements; removed performance criteria regarding removing blade from machine; added performance criteria to clarify process; split element 2; specified the types of band saw blades in performance evidence	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSAW3245 Join band saw blades

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, at least on one occasion, the individual has:

- joined the following types of band saw blades:
 - narrow band
 - wide band
- in doing the above job, the individual has:
 - followed work order and relevant workplace health and safety and environmental protection procedures
 - welded and annealed blades to specified requirements
 - grinded surplus weld material
 - removed all distortions from the blade surface
 - tensioned the welded zone
 - adjusted back length of the blade
 - cleaned welded zone.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- purpose, types, features and operation of band saws
- features and names of different parts of band saw blades
- purpose, features and operation of tools and equipment used to join and anneal band saw blades:
 - band saw welding equipment
 - grinding and finishing equipment
 - hand or power operated tools

- importance of joining and annealing blades to suit machine design requirements
- weld defects and effects on blade operation
- methods for:
 - welding and annealing blades to specified requirements
 - grinding surplus weld material
 - removing all distortions from the blade surface
 - tensioning the welded zone
- types of risk and hazards and mitigation measures associated with joining band saw blades
- workplace procedures specific to joining band saw blades:
 - workplace health and safety, with particular emphasis on equipment lock-out, use of personal protective equipment (PPE) and safe manual handling
 - communication reporting lines
 - recording and reporting of processing and equipment faults
- environmental protection practices for repairing and maintaining tools and equipment in forest products factory settings:
 - reducing water and energy use
 - cleaning plant, tools and equipment
 - disposing of, recycling and reusing materials.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a saw technician workshop, sawmill or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - band saw welding equipment including one or more of the following: gas metal arc welding (GMAW), gas tungsten arc welding (GTAW), flash butt welders, butt welders
 - grinding and finishing equipment
 - hand or power operated tools
 - saw blades, including narrow and wide band saw blades that cut both ferrous and non-ferrous material
 - PPE suitable for joining band saw blades
- specifications:
 - manufacturer instructions for use, repair and maintenance of equipment
 - work order for repair and maintenance activities with specific instructions for joining band saw blades for specified equipment
 - documents, spreadsheets and proformas for recording processing and equipment faults
 - workplace procedures for joining band saw blades.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSAW3247 Replace tungsten tips

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to remove worn or damaged tungsten tips from circular saw blades, and braze, clean and prepare replacement tips for grinding and return to service.

The unit applies to individuals who replace tungsten tips in a saw technician workshop or timber processing facility.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Sawmilling and Processing (SAW)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for replacement	<p>1.1 Review work order to determine job requirements and, where required, seek clarification from appropriate personnel</p> <p>1.2 Review workplace health and safety procedures, including the use of personal protective equipment, equipment lock-out and safe manual</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>handling techniques</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with replacing tungsten tips</p> <p>1.4 Identify workplace environmental protection procedures for minimising and disposing of waste material, cleaning tools and equipment, and maximising energy efficiency</p> <p>1.5 Select appropriate tools and equipment, and check for operational effectiveness according to manufacturer recommendations</p>
2. Remove worn, damaged or broken tips	<p>2.1 Remove and replace saw blade according to manufacturer instructions</p> <p>2.2 Assess saw blade condition</p> <p>2.3 Clean foreign matter from saw and check for defects</p> <p>2.4 Identify and mark broken tips</p> <p>2.5 Remove broken tips, minimising damage to the tooth seat, and dispose of according to environmental protection practices</p> <p>2.6 Repair tooth seats to specified tolerance and dimensions</p>
3. Replace tips	<p>3.1 Set up saw in brazing jig according to manufacturer instructions</p> <p>3.2 Select brazing material and suitable technique for application and heat control</p> <p>3.3 Select appropriate replacement tip and braze into position</p> <p>3.4 Trial braze one tip, check tip is correctly positioned and the silver alloy has flowed evenly to both sides of the tip</p> <p>3.5 Inspect and verify tip position, side clearance, and joint quality objectives have been achieved</p> <p>3.6 Set manual or automatic feeds according to number of tips to be brazed</p> <p>3.7 Identify routine processing and equipment faults, and resolve or report to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Numeracy	<ul style="list-style-type: none"> • Uses standard units of measurement and symbols for temperature and volume • Uses basic arithmetic skills to determine amount of brazing material required when replacing tips
Navigate the world of work	<ul style="list-style-type: none"> • Understands main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> • Uses modes of communication suitable to purpose to confirm and clarify understanding
Get the work done	<ul style="list-style-type: none"> • Recognises and responds to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPSAW3247 Replace tungsten tips	FWPSAW3218 Replace tungsten tips	Renamed element; updated performance criteria; revised performance evidence for clarity; updated knowledge evidence	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSAW3247 Replace tungsten tips

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has:

- followed work order and relevant workplace health and safety and environmental protection procedures
- removed worn tungsten tips from circular saw blades
- replaced tungsten tips for circular saw blades
- assessed condition of tungsten tips in line with workplace procedures.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- basic knowledge of physics of sawing, including:
 - saw blade material and properties
 - impact of timber properties on saw blades
 - direction of cut
 - forces on a blade
 - heat removal
 - saw tooth configuration
- purpose, features and operation of saws for which tungsten tips are replaced:
 - circular saws
- features and names of different parts of saw blades
- purpose, features and operation of tools and equipment used to replace tungsten tips:
 - brazing equipment and brazing material
 - brazing jigs
- methods for:

- removing saw blades from saws
- assessing saw blade condition
- removing tungsten tips from saw blades
- cleaning excess braze alloy and carbide fragments from tip seats
- lengthening or deepening tip seats to match replacement tip requirements
- selecting size and type of replacement tip
- pre-tinning new tips
- brazing new tungsten tips onto the tooth face or tooth seat
- appropriate tolerances for brazing alloy joint thickness, replacement tip sizes and side clearance objectives
- characteristics of metal used in saw blades, and effects of brazing
- types of risk and hazards and mitigation measures associated with replacing tungsten tips
- workplace procedures specific to replacing tungsten tips:
 - workplace health and safety, with particular emphasis on equipment lock-out and use of personal protective equipment (PPE)
 - communication reporting lines
 - recording and reporting processing and equipment faults
- environmental protection practices applicable to saw technician workshops or timber processing facilities:
 - reducing water and energy use
 - cleaning plant, tools and equipment
 - disposing of, recycling and reusing materials.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a saw technician workshop, timber processing facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - brazing equipment
 - brazing jigs
 - circular saws
 - tungsten tips
 - brazing material: silver alloy, flux in the form of a liquid or paste
 - side clearance dial indicator: Kafer Gauge
 - PPE suitable for replacing tungsten tips
- specifications:
 - documents, spreadsheets and templates for recording operation and equipment faults
 - manufacturer instructions for use, repair and maintenance of equipment
 - work order with specific instructions for replacing tungsten tips for circular saws

- workplace procedures for replacing tungsten tips.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSAW3251 Apply principles of blade design to sawing procedures

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to select blades for various sawing operations and apply principles of blade design in the selection to maintain quality production output.

The unit applies to individuals who maintain the quality of saw blades in a saw technician workshop or timber processing facility.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Sawmilling and Processing (SAW)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
<i>1. Prepare for work</i>	1.1 Review work order to determine job requirements and, where required, seek clarification from appropriate personnel

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.2 Review workplace health and safety procedures, including the use of personal protective equipment, equipment lock-out and safe manual handling techniques</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with selecting and sawing logs in multi-species operations</p> <p>1.4 Identify workplace environmental protection procedures for minimising and disposing of waste material, cleaning tools and equipment, and maximising energy efficiency</p>
2. Maintain quality output	<p>2.1 Follow quality system procedures for the use and care of blades</p> <p>2.2 Assess blades visually for defects before processing products and completing work</p>
3. Apply blade design principles	<p>3.1 Classify blades according to type and style suitable for different saws and production requirements</p> <p>3.2 Identify and evaluate blade characteristics, properties and design capacities according to manufacturer specifications and production requirements</p> <p>3.3 Select blades to suit material being cut and production requirements</p> <p>3.4 Plan sawing to minimise blade damage and wear, and to optimise blade lifespan</p>
4. Assess the blade condition	<p>4.1 Identify and resolve during daily operations machinery and equipment issues that can cause product waste and adversely affect blade lifespan</p> <p>4.2 Assess saw blade condition and recognise the need to rectify blade wear and damage</p> <p>4.3 Record and report blade faults to appropriate personnel according to blade design specifications</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Numeracy	<ul style="list-style-type: none"> Measures blade characteristics for different blade types
Navigate the world of work	<ul style="list-style-type: none"> Understands main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> Uses modes of communication suitable to purpose to confirm and clarify understanding
Get the work done	<ul style="list-style-type: none"> Recognises and responds to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPSAW3251 Apply principles of blade design to sawing procedures	FWPSAW3228 Apply principles of blade design to sawing procedures	Updated performance criteria, performance evidence and knowledge evidence to reflect environmental and workplace health and safety requirements; updated foundation skills; updated unit code to reflect changes and meet compliance	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSAW3251 Apply principles of blade design to sawing procedures

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has:

- followed work order and relevant workplace health and safety and environmental protection procedures
- selected blades for sawing procedures according to workplace procedures
- identified and evaluated blade characteristics, properties and design capacities for at least three of the following types of blades:
 - circular saw blades
 - band saw blades
 - wide saw blades
 - standard steel
 - tungsten tipped
 - Stellite tipped
- assessed saw blade condition and completed basic records of faults for at least three types of blade
- selected appropriate blades to suit material being cut and production requirements for three separate work orders.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- types of risk and hazards and mitigation measures associated with applying principles of blade design to sawing procedures
- workplace procedures specific to applying principles of blade design to sawing procedures:

- workplace health and safety, with particular emphasis on equipment lock-out and use of personal protective equipment (PPE)
- communication reporting lines
- recording and reporting of processing problems and equipment faults
- environmental protection practices for timber processing operations:
 - reducing water and energy use
 - cleaning plant, tools and equipment
 - disposing of, recycling and reusing timber
- purpose, features and operation of blades:
 - circular saw blades
 - band saw blades
 - gang saw blades
 - wide saw blades
 - standard steel
 - tungsten tipped
 - Stellite tipped
- properties of blades used in the timber processing and manufacturing industry:
 - metal from which blades are made
 - geometry and concentricity
- characteristics of blades and names and purpose of blade parts:
 - tooth pitch
 - kerf
 - gullet
 - tooth face
 - set
 - straightness
 - tooth profile
 - tooth and side clearance angles
 - gullet depth/tooth height
 - tension ring
 - application (crosscutting or ripping)
- methods to optimise the use of saw blades
- effects of different types of materials on saw blade wear
- typical machinery and equipment issues that can cause product waste and adversely affect blade lifespan
- methods for assessing saw blade condition
- workplace quality system procedures for the use and care of blades.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing or manufacturing facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - blades for at least three of the following types of saws: circular saws, narrow band saws and wide band saws
 - different styles of blade: solid tooth, tungsten tipped and Stellite tipped
 - maintenance tools and equipment for blades
 - personal protective equipment suitable for handling blades
- specifications:
 - template documents for recording blade faults
 - manufacturer specifications for blade use and recommendations for repairing and maintaining blades
 - work orders with specific information on materials to be cut and production requirements
 - workplace quality system procedures for the use and care of blades.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSAW3252 Assemble, operate and dismantle a portable sawmill

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to assemble, operate and dismantle a portable sawmill.

The unit applies to individuals who assemble, operate and dismantle portable sawmills.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Sawmilling and Processing (SAW)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Assemble portable sawmill	<p>1.1 Determine job requirements from work order or instructions and, where required, confirm with appropriate personnel</p> <p>1.2 Confirm workplace health and safety and environmental protection practices and/or procedures for task, including use of personal</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>protective equipment, equipment lock-out and safe manual handling</p> <p>1.3 Identify and assess hazards and take actions to mitigate risks related to assembling, operating and dismantling portable sawmills</p> <p>1.4 Inspect suitability of proposed worksite and identify potential workflow interferences</p> <p>1.5 Identify safe location for equipment, logs, stacking of sawn timber and waste</p> <p>1.6 Assemble portable sawmill on site according to manufacturer instructions</p> <p>1.7 Complete pre-operational checks on portable sawmill</p> <p>1.8 Conduct test run of portable sawmill and resolve or report processing and equipment faults</p>
2. Saw logs using portable sawmill	<p>2.1 Use cant hooks, winches or log rollers to position logs to be sawn and stabilise with chock logs or pre-notched runners</p> <p>2.2 Determine sawn timber dimensions from customer order or work order</p> <p>2.3 Identify log characteristics and estimate number of timber boards and sequence of cuts from an individual log</p> <p>2.4 Adjust saw, carriage and mill to suit dimensions of boards to be cut</p> <p>2.5 Operate portable sawmill, ensuring that sawn edges are controlled</p> <p>2.6 Remove logs with defects, reject boards and off-cuts to waste or sawn recovery</p> <p>2.7 Record and report process and equipment faults</p>
3. Conduct operator maintenance	<p>3.1 Lock out and isolate portable sawmill according to workplace health and safety procedures</p> <p>3.2 Check saw and saw blades for bluntness or damage, and repair or replace according to manufacturer instructions</p>
4. Dismantle portable sawmill	<p>4.1 Dismantle portable sawmill according to manufacturer instructions</p> <p>4.2 Load and secure dismantled sawmill equipment for transportation</p> <p>4.3 Restore work site according to workplace environmental protection practices and/or procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret routine workplace documents relevant to portable sawmilling operations
Writing	<ul style="list-style-type: none"> Complete routine workplace records used in sawmilling operations
Oral communication	<ul style="list-style-type: none"> Ask open and closed questions and actively listen to clarify contents of work orders
Numeracy	<ul style="list-style-type: none"> Interpret routine numerical information in work orders Perform routine calculations or estimations of number and dimension relevant to sawmilling operations

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPSAW3252 Assemble, operate and dismantle a portable sawmill	FWPSAW2209 Dismantle, transport and assemble hand portable sawmill	Redesigned unit that includes content from FWPSAW2209 Dismantle, transport and assemble hand portable sawmill and FWPSAW3229 Operate a portable sawmill	Not equivalent
FWPSAW3252 Assemble, operate and dismantle a portable sawmill	FWPSAW3229 Operate a portable sawmill	Redesigned unit that includes content from FWPSAW2209 Dismantle, transport and assemble hand portable sawmill and FWPSAW3229 Operate a portable sawmill	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSAW3252 Assemble, operate and dismantle a portable sawmill

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has:

- selected an appropriate site and assembled one portable sawmill following workplace procedures
- selected logs and operated one portable sawmill for one production period to produce green timber boards according to a work order
- performed routine operator maintenance on one portable sawmill at the completion of a production period
- disassembled and prepared one portable sawmill for transportation.

In performing each of these tasks, the individual has:

- followed workplace operating and health and safety procedures, including use of personal protective equipment (PPE), equipment lock-out and safe manual handling
- identified and controlled hazards associated with the work task
- followed workplace environmental protection practices and/or procedures.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- features and safe use of portable sawmills and other equipment, including:
 - cant hooks
 - winches
 - log rollers
 - mechanical lifting equipment
- appropriate locations for portable sawmills to optimise efficient and safe workflow

- pre-start-up checks for portable sawmills, including:
 - ensuring that saw has been set up correctly
 - ensuring that blades are installed accurately
 - ensuring that machinery is operating to optimum performance
- optimisation of log sawing, including:
 - planning the cutting of a log to achieve the most from it (most and widest boards possible)
 - ensuring environmental protection requirements and practices are central to this planning process
- characteristics of logs for sawing, including:
 - diameter range
 - curvature
 - faults
 - species
 - moisture content
- log sawing processes, feed rates and finish
- blade condition assessment
- log defects, including:
 - defects arising from a change in moisture content
 - warp
 - wane
 - curvature
 - shakes
 - insect defects
 - knots and resin pockets
 - sweep
 - taper
 - end splits
 - shape
- non-specialist maintenance for portable sawmills, including:
 - cleaning machine of wood chips and sawdust
 - replacing blunt and damaged saw blades
 - inspecting machine parts for wear or damage, including guards
 - greasing and lubricating moving parts
 - checking operation of emergency stop buttons and lock-out systems
- workplace procedures for assembling, operating and disassembling a portable sawmill, including:
 - health and safety, including use of PPE, equipment lock-out and safe manual handling
 - portable sawmill operation
 - communication reporting lines

- recording and reporting processing and equipment faults
- hazards and associated risks with assembling, operating and dismantling a portable sawmill
- workplace environmental protection requirements and procedures for safe disposal of waste material and cleaning of plant, tools and equipment.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest or timber processing workplace or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - portable sawmill
 - tools and equipment required for assembling, operating and dismantling a portable sawmill
 - PPE suitable for assembling, operating and dismantling a portable sawmill
 - quantities of logs
- specifications:
 - work order or instruction detailing activities to be carried out
 - workplace health and safety and environmental protection policies and/or procedures applicable to assembling, operating and dismantling a portable sawmill
 - workplace procedures for assembling, operating and dismantling a portable sawmill.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSAW3253 Re-saw green timber

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to re-saw green timber, including flitches, cants and rough sawn timber, using sawing machinery to maximise the amount of product and usability.

The unit applies to individuals who saw green boards in a timber processing plant.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Sawmilling and Processing (SAW)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for re-sawing green timber boards	1.1 Determine job requirements from work order or instructions and, where required, seek clarification from appropriate personnel 1.2 Confirm workplace health and safety procedures for task, including use of personal protective equipment, equipment lock-out

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>and safe manual handling techniques</p> <p>1.3 Identify and assess hazards and take actions to mitigate risks related to sawing operations</p> <p>1.4 Identify workplace environmental protection practices and/or procedures for minimising and disposing of waste material, cleaning tools and equipment and maximising energy efficiency</p> <p>1.5 Acquire type, quantity and quality of timber to be cut from the storage location</p>
2. Produce green timber boards	<p>2.1 Set up saw, carriage and feeding system according to workplace health and safety procedures, manufacturer instructions and environmental protection practices and/or procedures</p> <p>2.2 Adjust saw and equipment regularly within operational capacity to achieve product sizes and tolerances according to work order</p> <p>2.3 Monitor timber supply to ensure quantity of finished product and constant supply to saw</p> <p>2.4 Maintain feed rate during operation to optimise production without damaging timber or saw blade</p> <p>2.5 Reuse, recycle or dispose of incorrect cuts, off-cuts and sub-standard timber according to workplace environmental protection practices and/or procedures</p> <p>2.6 Stack timber safely in designated location according to workplace procedures</p> <p>2.7 Identify routine processing problems, and resolve or report to appropriate personnel</p> <p>2.8 Record and report production output</p>
3. Complete operator maintenance	<p>3.1 Lock out equipment according to workplace health and safety procedures</p> <p>3.2 Check saw blades for bluntness or damage</p> <p>3.3 Remove and replace saw blades according to manufacturer recommendations</p> <p>3.4 Dispose of used blades according to workplace environmental protection practices and/or procedures</p> <p>3.5 Complete basic non-specialist maintenance for equipment according to manufacturer instructions</p> <p>3.6 Keep machine clear of dust and debris according to workplace</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	health and safety procedures 3.7 Record and report equipment faults and maintenance requirements to appropriate personnel

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret routine workplace documents, including workplace health and safety guidelines, workplace procedures, cutting lists and work orders
Oral communication	<ul style="list-style-type: none"> Ask questions and actively listen to clarify work orders and job tasks and report workplace issues
Numeracy	<ul style="list-style-type: none"> Calculate feed rate to optimise quality and quantity of production output Accurately measure dimensions of sawn timber against standard sizes and tolerances

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPSAW3253 Re-saw green timber	FWPSAW3243 Produce sawn green boards	Redesigned unit that incorporates content from FWPSAW3243 Produce sawn green boards and FWPTMM3210 Convert timber	Not equivalent
FWPSAW3253 Re-saw green timber	FWPTMM3210 Convert timber	Redesigned unit that incorporates content from FWPSAW3243 Produce sawn green boards and	Not equivalent

		FWPTMM3210 Convert timber	
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Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSAW3253 Re-saw green timber

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has re-sawn, according to an individual work order, one type of green hardwood, softwood, native or imported species timber product selected from:

- flitches
- cants
- rough sawn timber.

In performing this task, the individual has:

- used one of the following items of equipment:
 - power operated, automatic feed controlled ripping saws
 - saws with adjustable cant (sloping table)
 - saws with one blade
 - rip saws
 - table saws
 - bench saws.
- followed workplace procedures for cutting operation
- selected, fitted and used personal protective equipment (PPE)
- cut products to length or dimensions according to prescribed workplace tolerance
- stacked finished product in designated storage location according to common size, length and width
- completed operator maintenance on the saw used.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- typical timber defects and the impact on production of quality sawn timber product, including:
 - warp
 - wane
 - cupping
 - shakes
 - insect defects
 - knots
 - resin pockets
- typical workflow processes for re-sawing green timber
- typical flow of green sawn timber supply into the sawing area
- range of cutting patterns used on green sawn timber to maximise the amount of product and usability
- range of industry standard lengths, cross-sections and tolerances, and applicable terminology for green timber product
- range of feed rates and impact on production output and finished quality of green timber product
- storage layout and categories for stacking finished green timber product
- purpose, features and operation of measuring equipment used in re-sawing green timber
- purpose, features and operation of saws used in workplace for re-sawing green timber
- purpose, features and operation of maintenance tools and equipment for saws
- methods for assessing saw blade condition
- workplace environmental protection requirements and practices for sawing operations, including:
 - cleaning plant, tools and equipment
 - criteria and processes for disposing of, recycling and reusing timber
 - minimising waste material and maximising energy efficiency
- processes for implementing routine operator maintenance activities associated with sawing operations
- workplace procedures specific to re-sawing green timber, including:
 - health and safety, with particular emphasis on equipment lock-out, use of PPE and manual handling
 - communication reporting lines
 - recording and reporting production output, processing problems and equipment faults.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing plant, a timber product manufacturing plant or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - measuring equipment
 - saw to re-saw green timber
 - maintenance tools and equipment for saws
 - manual handling equipment
 - consumable saw blades
 - PPE suitable for re-sawing green timber
 - a commercial range of green timber for re-sawing
- specifications:
 - work order with specific instructions for re-sawing green timber
 - template documents for recording equipment faults and maintenance requirements
 - workplace health and safety and environmental protection policies and/or procedures applicable to re-sawing green timber
 - workplace procedures for re-sawing green timber.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSAW3254 Control and monitor automated green mill saw line

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to control and monitor a fully automated saw line from control room to cut logs into green sawn timber.

The unit applies to individuals who operate automated green mill saw lines in a sawmill or timber processing work environment.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Sawmilling and Processing (SAW)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to control and monitor green mill automated saw line	1.1 Determine job requirements from work order or instructions and, where required, check with appropriate personnel 1.2 Review workplace health and safety and environmental protection

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>procedures for work activity</p> <p>1.3 Identify and assess hazards and take actions to mitigate risks related to saw line operations</p> <p>1.4 Confirm emergency procedures and actions to be taken in the event of an emergency situation</p>
2. Configure green mill automated saw line optimising program	<p>2.1 Set optimising program to job specifications</p> <p>2.2 Conduct trial runs to check system operation, accuracy and quality of finished work</p> <p>2.3 Complete final adjustments to optimising program</p>
3. Control and monitor green mill automated saw line	<p>3.1 Start up and log onto control and data acquisition system to operate saw line</p> <p>3.2 Feed logs into saw line</p> <p>3.3 Monitor sawing operation through control and data acquisition system and make system adjustments to meet production output, product quality and maximum recovery</p> <p>3.4 Identify and correct minor deviations to normal operating parameters of saw line</p> <p>3.5 Report non-routine processing and equipment problems to relevant personnel</p>
4. Maintain process control and data acquisition system for green mill automated saw line	<p>4.1 Conduct routine planned inspections of control and data acquisition system according to manufacturer requirements</p> <p>4.2 Report faults and maintenance requirements to relevant personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Writing	<ul style="list-style-type: none"> Prepare routine written reports using required format, language and structure

Skill	Description
Oral communication	<ul style="list-style-type: none"> Employ active listening and questioning on routine matters related to output quality and equipment history records
Numeracy	<ul style="list-style-type: none"> Perform precise mathematical calculations to determine correct alignment of key parts of sawing system according to specified settings Use basic mathematical symbols and conventions in completing workplace reports related to alignment activities

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPSAW3254 Control and monitor automated green mill saw line	FWPSAW3249 Saw logs using CNC optimising systems	<p>New unit title</p> <p>Revised Application, Elements and Performance Criteria</p> <p>Revised Foundation Skills</p> <p>Updated Performance Evidence, Knowledge Evidence and Assessment Conditions</p>	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSAW3254 Control and monitor automated green mill saw line

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has run, monitored and controlled a fully automated green mill saw line from control room for one production cycle.

In performing this task, the individual has:

- followed workplace health and safety and operating procedures
- checked system operation for compliance with job-specific operational and optimisation requirements
- monitored control and data acquisition system and optimising program and adjusted the system to meet production parameters and requirements
- conducted routine scheduled checks of the control and data collection systems and communicated any deficiencies or maintenance requirements to relevant personnel.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- workplace procedures specific to control and monitoring of fully automated green mill saw line, including:
 - health and safety, including use of personal protective equipment (PPE) and equipment lock-out
 - communication procedures
 - recording and reporting of processing problems and equipment faults
 - emergency procedures
- workplace environmental protection requirements and practices specific to timber processing plants, including:
 - reducing water and energy use
 - cleaning plant, tools and equipment

- disposing of, recycling and reusing timber
- features and components of fully automated green mill saw line
- features and operation of control and data acquisition system for automated green mill saw line
- basic components and functions of mechatronic systems for automated green mill saw line, including:
 - sensors
 - actuators
 - controllers
- workflow processes for automated green mill saw line
- typical flow of log supply in and out of sawing area in green mill
- range of cutting patterns used on logs to achieve maximum output of flitches and cants
- range of feed rates and how they affect production output and finished quality of flitches and cants
- purpose, features and configuration of optimisation program for automated green mill saw line
- typical log defects and how they affect ability to produce quality flitches and cants, including:
 - warp
 - wane
 - curvature
 - cupping
 - shakes
 - insect defects
 - knots
 - resin pockets.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing plant or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - fully automated green mill saw line
 - PPE suitable for green mill saw line operations
 - logs for processing
- specifications:
 - workplace procedures for control and monitoring automated green mill saw line
 - workplace emergency procedures relevant to green mill saw line operations
 - template documents for recording equipment faults and maintenance requirements

- workplace health and safety and environmental protection policies and/or procedures applicable to saw line operations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSAW3255 Operate conventional log breakdown saw line

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to operate a conventional breakdown saw line to saw logs as part of primary and secondary processing or green mill operations in a sawmill.

The unit applies to individuals who saw logs using conventional log breakdown saw lines in a sawmill or timber processing work environment.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Sawmilling and Processing (SAW)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for primary or secondary log breakdown	1.1 Determine job requirements from work order or instructions and, where required, check with appropriate personnel 1.2 Review workplace health and safety and environmental protection practices and/or procedures for work activity, including emergency

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>procedures to be followed in the event of an emergency situation</p> <p>1.3 Identify and assess hazards and take actions to mitigate risks related to performing log breakdown</p> <p>1.4 Check production input to ensure that it meets job specifications</p> <p>1.5 Check that other upstream and downstream processing stages are ready for production</p> <p>1.6 Select cutting schedule based on incoming production input and job requirements to optimise grade, size and recovery</p> <p>1.7 Conduct trial runs to check for quality and compliance with cutting schedule requirements</p> <p>1.8 Identify processing constraints and potential solutions according to workplace procedures</p>
2. Operate primary or secondary log breakdown equipment	<p>2.1 Complete pre-start-up checks according to manufacturer and workplace procedures</p> <p>2.2 Operate breakdown equipment to comply with selected cutting schedule</p> <p>2.3 Manage product flow to ensure efficient workflow in sawmill and breakdown operations</p>
3. Monitor performance of breakdown equipment	<p>3.1 Monitor and interpret output data from breakdown equipment control system according to workplace procedures</p> <p>3.2 Monitor and assess output quality from breakdown equipment, identify equipment faults and other sources of quality variations, and take corrective action or report to appropriate personnel according to workplace procedures</p> <p>3.3 Complete production, maintenance and quality records according to workplace procedures</p>
4. Implement routine maintenance procedures for breakdown equipment	<p>4.1 Carry out preventative maintenance and cleaning for breakdown equipment according to workplace procedures</p> <p>4.2 Coordinate saw changes with other staff, and make adjustments to breakdown equipment according to workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Writing	<ul style="list-style-type: none"> Prepare routine written reports using required format, language and structure
Oral communication	<ul style="list-style-type: none"> Employ active listening and questioning on routine matters related to output quality and equipment history records
Numeracy	<ul style="list-style-type: none"> Count number of logs to be sawn Perform basic calculations to determine feed rate to optimise quality and quantity of production output

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPSAW3255 Operate conventional log breakdown saw line	FWPSAW3230 Perform primary log breakdown	Redesigned unit that includes content from FWPSAW3230 Perform primary log breakdown, FWPSAW3231 Perform secondary log breakdown and FWPSAW3241 Set up and operate production saws used in sawmill operations	Not equivalent
FWPSAW3255 Operate conventional log breakdown saw line	FWPSAW3231 Perform secondary log breakdown	Redesigned unit that includes content from FWPSAW3230 Perform primary log breakdown, FWPSAW3231 Perform secondary log breakdown and FWPSAW3241 Set up and operate production saws used in sawmill operations	Not equivalent
FWPSAW3255 Operate conventional log breakdown saw	FWPSAW3241 Set up and operate production saws used	Redesigned unit that includes content from FWPSAW3230 Perform	Not equivalent

line	in sawmill operations	primary log breakdown, FWPSAW3231 Perform secondary log breakdown and FWPSAW3241 Set up and operate production saws used in sawmill operations	
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Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSAW3255 Operate conventional log breakdown saw line

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has run and monitored a conventional log breakdown saw line for one production cycle in an equipment configuration specific to one of the following sawmill operations:

- primary processing operations
- secondary processing operations.

In performing this task, the individual has:

- followed workplace health and safety and operating procedures
- checked equipment, production input and process readiness to ensure operational effectiveness
- selected and adhered to a cutting schedule during breakdown operation to optimise grade, size and recovery
- verified output quality and identified two real or hypothetical reasons for quality variations and corrective actions
- performed routine equipment maintenance and cleaning operations
- produced routine reports containing information on production, maintenance and quality.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- types of hazards, associated risks and mitigation measures associated with breaking down logs
- workplace procedures specific to breaking down logs, including:
 - health and safety, including use of personal protective equipment (PPE) and equipment lock-out

- communication reporting lines
- recording and reporting of processing problems and equipment faults
- emergency procedures
- workplace environmental protection requirements and practices specific to timber processing plants, including:
 - reducing water and energy use
 - cleaning plant, tools and equipment
 - disposing of, recycling and reusing timber
- log breakdown equipment in workplace environment, including:
 - configuration
 - purpose
 - components
 - operating parameters
 - capability
 - operation
- safety features of breakdown equipment, including:
 - isolation procedures
 - stop button
 - lock-out switch or system
 - hold cards
 - guards
- log breakdown process
- distinction between primary and secondary log breakdown
- typical workflow for breaking down logs
- downstream processing options for log breakdown operations
- range of cutting patterns used on logs to optimise for maximum recovery and maximum value
- range of feed rates and how they affect production output and finished quality
- factors that impact on output quality in log breakdown operations, including:
 - log or timber characteristics and defects
 - variations in size
 - blunt and damaged saws
- log breakdown equipment faults, including methods for assessing saw blade condition
- routine operator maintenance activities associated with sawing operations.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:

- skills must be demonstrated in a timber processing plant or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - conventional log breakdown equipment
 - PPE suitable for log breakdown operations
 - logs for processing
- specifications:
 - workplace procedures for log breakdown operations
 - workplace emergency procedures relevant to log breakdown operations
 - workplace health and safety and environmental protection policies and/or procedures applicable to log breakdown operations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSAW3256 Select and saw logs in multi-species operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to segregate and saw logs into flitches or cants and maintain the production flow, allowing for changes in species. Work includes operator maintenance.

The unit applies to individuals who select and saw logs in multi-species operations in a timber processing facility.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Sawmilling and Processing (SAW)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for sawing in multi-species operation	1.1 Determine job requirements from work order or instructions and, where required, seek clarification from appropriate personnel 1.2 Review workplace health and safety and environmental protection practices and/or procedures for work activity, including emergency

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>procedures to be followed in the event of an emergency situation</p> <p>1.3 Identify and assess hazards and take actions to mitigate risks related to sawing logs</p> <p>1.4 Select tools and equipment for sorting and sawing operations, and check for serviceability</p>
2. Segregate logs for sawing in multi-species operation	<p>2.1 Select appropriate logs according to species, size, grade and/or other characteristics to suit job requirements</p> <p>2.2 Reject and direct defective logs for reuse, recycling or disposal according to workplace procedures and environmental protection practices and/or procedures</p> <p>2.3 Identify sawing sequence and cutting patterns to achieve maximum output of flitches or cants from different species</p> <p>2.4 Plan flow of logs in and out of the sawing area to maximise production</p>
3. Saw logs in multi-species operation	<p>3.1 Complete pre-start-up equipment checks to ensure operational effectiveness</p> <p>3.2 Use dogs to secure and align logs to saw and minimise damage</p> <p>3.3 Clear logs of foreign matter and feed into saw at feed rate according to workplace procedures</p> <p>3.4 Maximise feed rate and adjust sawing sequence or process regularly to achieve required production output and quality, considering log defects and changes in species</p> <p>3.5 Direct flitches or cants to designated area according to job requirements</p> <p>3.6 Identify routine processing problems and resolve or report to appropriate personnel</p>
4. Complete operator maintenance	<p>4.1 Lock out equipment according to workplace procedures</p> <p>4.2 Check saw blades for bluntness or damage</p> <p>4.3 Remove and replace saw blades according to manufacturer recommendations</p> <p>4.4 Dispose of used blades according to workplace environmental protection practices and/or procedures</p> <p>4.5 Complete basic non-specialist maintenance of equipment</p> <p>4.6 Keep machine clear of dust and debris according to safety</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	procedures 4.7 Record and report equipment faults and maintenance requirements to appropriate personnel

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Writing	<ul style="list-style-type: none"> Prepare routine written reports using required format, language and structure
Oral communication	<ul style="list-style-type: none"> Employ active listening and questioning to clarify content of work orders
Numeracy	<ul style="list-style-type: none"> Identify quantities of required material within work orders, and count number of logs to be sawn Measure log size across multiple species according to work orders Complete routine calculations to determine correct angles for aligning logs to equipment Perform basic calculations to determine feed rate to optimise quality and quantity of production output

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPSAW3256 Select and saw logs in multi-species operations	FWPSAW3250 Select and saw logs in multi-species operations	Revised Application, Elements, Performance Criteria, Foundation Skills, Performance Evidence and Assessment Conditions	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSAW3256 Select and saw logs in multi-species operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has sawn logs in a multi-species operation for one production cycle to produce fitches or cants according to job requirements.

In performing this task, the individual has:

- followed workplace safety and operational procedures
- selected logs based on production requirements, log utilisation and at least one of the following characteristics:
 - diameter range
 - curvature
 - faults
 - species
 - moisture content
- secured, aligned and fed logs into saw at an optimal feed rate, modifying sawing sequence or procedure to meet production output and quality requirements in response to log defects and species variations
- completed basic non-specialist maintenance on equipment used
- produced routine reports containing information on production, maintenance and quality.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- types of risk and hazards and mitigation measures associated with selecting and sawing logs in multi-species operations
- workplace procedures specific to selecting and sawing logs in multi-species operations, including:

- workplace health and safety, with particular emphasis on equipment lock-out and use of personal protective equipment (PPE)
- communication reporting lines
- recording and reporting processing problems and equipment faults
- workplace environmental protection requirements and practices for timber processing operations, including:
 - reducing water and energy use
 - cleaning plant, tools and equipment
 - disposing of, recycling and reusing timber
- purpose, features and operation of equipment used to saw flitches and cants, including:
 - carriages, including standard three-headed dog carriages and flat top carriages with head rigs
 - saws, including circular saws, bench saws and overhead frame saws or band saws
- operation of mechanical feed
- operation of conveyor system to transport logs to and from the sawing area
- types and uses of maintenance tools and equipment for saws
- typical range of industry and organisation specific species types, including:
 - visual characteristics of logs
 - recovery characteristics
- typical workflow processes for sawing flitches and cants
- methods of adjusting workflow and sawing schedule during operation to account for differences in species
- cutting patterns required for logs of different tree species to achieve maximum output of flitches and cants
- assessment of logs for:
 - diameter range
 - curvature
 - faults
 - species of various types
 - moisture content
- range of feed rates and how they impact on the production output and finished quality of flitches and cants
- typical flow of log supply in and out of the sawing area
- methods for assessing saw blade condition
- species and recovery characteristics of timber and timber defects
- flow control systems and marking requirements
- typical log defects and how they impact on the ability to produce quality flitches and cants, including:
 - warp
 - wane
 - curvature
 - cupping

- shakes
- insect defects
- knots
- resin pockets.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing plant or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - log sawing equipment
 - PPE suitable for selecting and sawing logs
 - logs from different species of trees
- specifications:
 - workplace procedures for sawing logs in a multi-species operation
 - workplace emergency procedures relevant to log sawing operations
 - workplace health and safety and environmental protection policies and procedures applicable to sawing logs in a multi-species operation.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSAW3257 Operate timber drying kiln

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to dry softwood or hardwood timber in conventional kilns, including batch and continuous drying kilns, or solar assisted kilns, to appropriate moisture contents and stress levels.

The unit applies to individuals who work in timber drying operations in a wood products work environment.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Sawmilling and Processing (SAW)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for drying timber operations	1.1 Determine job requirements from work order or specifications and, where required, seek clarification from appropriate personnel 1.2 Confirm workplace health and safety requirements for task, including use of personal protective equipment, emergency procedures

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>and kiln operation</p> <p>1.3 Confirm legislation, standards and codes of practice relevant to kiln operations</p> <p>1.4 Identify and assess hazards and take actions to mitigate risks related to kiln operations</p> <p>1.5 Obtain timber racks to be dried and assess racks visually for consistent drying characteristics</p> <p>1.6 Conduct pre-start checks on drying kiln according to manufacturer instructions</p>
2. Load, operate and control kiln conditions	<p>2.1 Load kiln with timber racks selected for drying</p> <p>2.2 Position baffles and/or blankets as required or according to manufacturer instructions and workplace procedures to optimise air flows in kiln</p> <p>2.3 Apply drying and final conditioning schedules by adjusting kiln control settings to optimise kiln drying rate, turnaround time and timber quality</p> <p>2.4 Report kiln charge data to appropriate personnel or enter it into kiln management system</p> <p>2.5 Follow emergency shutdown procedures in the case of alarm being triggered</p>
3. Monitor kiln conditions	<p>3.1 Check characteristics of kiln charge or use kiln output data periodically to determine the end point of drying</p> <p>3.2 Adjust kiln control settings in response to kiln charge characteristics to ensure drying schedules are met</p> <p>3.3 Identify human and equipment faults that may affect timber drying, and take corrective action or report to relevant personnel</p>
4. Check timber quality on completion of drying	<p>4.1 Check characteristics of kiln charge against end product specifications according to workplace procedures</p> <p>4.2 Assess need for reconditioning or high humidity treatment</p>
5. Complete kiln operations and move or store timber	<p>5.1 Observe cooling down period before baffles and/or blankets are removed from timber according to workplace procedure, if required</p> <p>5.2 Identify sub-standard timber and direct for re-use according to workplace procedures</p> <p>5.3 Direct dried timber to storage or processing operations and check</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	that packs are labelled according to workplace procedures 5.4 Clean work area according to workplace procedures 5.5 Complete records and forward to appropriate personnel

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret timber drying schedule Use a psychrometric chart to convert temperature and humidity readings to dry/wet bulb temperatures and equilibrium moisture content
Writing	<ul style="list-style-type: none"> Complete routine workplace documents related to timber drying operations
Oral communication	<ul style="list-style-type: none"> Use appropriate vocabulary to communicate with supervisors and team members engaged in timber drying operations
Numeracy	<ul style="list-style-type: none"> Perform routine calculations related to quantity, temperature, relative humidity, oven dry moisture content and drying times

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPSAW3257 Operate timber drying kiln	FWPCOT3248 Dry timber in solar assisted kilns	Redesigned unit that includes content from FWPCOT3248 Dry timber in solar assisted kilns, FWPSAW3205 Dry hardwood, FWPSAW3206 Dry softwood and FWPWPP3212 Dry	Not equivalent

		material	
FWPSAW3257 Operate timber drying kiln	FWPSAW3205 Dry hardwood	Redesigned unit that includes content from FWPCOT3248 Dry timber in solar assisted kilns, FWPSAW3205 Dry hardwood, FWPSAW3206 Dry softwood and FWPWPP3212 Dry material	Not equivalent
FWPSAW3257 Operate timber drying kiln	FWPSAW3206 Dry softwood	Redesigned unit that includes content from FWPCOT3248 Dry timber in solar assisted kilns, FWPSAW3205 Dry hardwood, FWPSAW3206 Dry softwood and FWPWPP3212 Dry material	Not equivalent
FWPSAW3257 Operate timber drying kiln	FWPWPP3212 Dry material	Redesigned unit that includes content from FWPCOT3248 Dry timber in solar assisted kilns, FWPSAW3205 Dry hardwood, FWPSAW3206 Dry softwood and FWPWPP3212 Dry material	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSAW3257 Operate timber drying kiln

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has conducted one softwood or hardwood timber drying operation using one of the following timber drying kilns:

- batch drying kiln
- continuous drying kiln
- solar assisted kiln.

In performing this task, the individual has:

- followed workplace procedures to safely and efficiently dry timber
- complied with legislation, standards and codes of practice relevant to kiln operations
- dried timber to appropriate moisture contents and stress levels
- operated and monitored a kiln, and made necessary adjustments in the course of the drying process
- measured the amount of moisture content of timber or timber products during and after kiln drying
- kept degrade to a minimum when drying timber
- managed the safe movement of timber throughout all stages of the drying process
- produced accurate reports and records of the drying process.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- workplace health and safety procedures relevant to timber drying operations, including personal protective equipment, emergency procedures and kiln operation
- legislation, standards and codes of practice relevant to kiln operations

- hazards and associated risks with timber drying, and risk control strategies as identified through risk assessments, manufacturer technical information, regulations and industry health and safety guides
- components, equipment, controls, energy systems and sources and operating principles of timber drying kilns from workplace environment
- methods for pre-start inspection and maintenance of timber drying kiln components
- methods for assessing consistent drying characteristics of racks, including:
 - size
 - age
 - condition
 - species
- reasons for drying timber
- timber drying stages
- wood-water relationships in the drying process
- timber moisture content, including fibre saturation point and equilibrium moisture content
- methods for monitoring and measuring characteristics of kiln charge during and after kiln drying, including:
 - moisture content
 - drying degrade
 - moisture gradient and stress
- influence of temperature, relative humidity and rate of air circulation on the drying rate
- kiln drying schedules for optimal drying rate, turnaround time and target moisture content without causing timber degrade
- timber drying defects, including surface checks, internal checks, end splits, collapse, excessive distortion, bow, spring, twist, cup and case hardening, reasons and control measures
- workplace procedures for drying timber, including:
 - quality assurance processes
 - storage systems and labelling
 - communication and reporting on drying process outcomes.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing plant, a timber product manufacturing plant or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - timber drying kiln
 - timber for drying

- personal protective equipment required for timber drying operations
- specifications:
 - templates for reporting on timber drying outcomes
 - timber drying schedule
 - workplace procedures for timber drying
 - workplace health and safety procedures applicable to timber drying.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSAW4206 Monitor output timber for optimum volume and value recovery

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to monitor timber production to optimise volume and value of sawn timber. This includes working safely, monitoring timber production for volume, grade and size, and reporting on production outcomes and compliance with optimisation objectives.

The unit applies to individuals who monitor output timber for optimum volume and value recovery in timber sawmills.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Sawmilling and Processing (SAW)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for work	1.1 Review work order to determine job requirements and, where

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>required, seek clarification from appropriate personnel</p> <p>1.2 Identify and apply workplace health and safety requirements, including use of personal protective equipment and safe manual handling techniques</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with sawing operations</p> <p>1.4 Identify and implement workplace procedures for minimising waste material and maximising energy efficiency</p>
2. Monitor timber production	<p>2.1 Confirm cutting pattern, product mix and optimisation objectives in relation to timber volume and value recovery</p> <p>2.2 Identify and monitor output data for timber volume, grade and size, noting any anomalies and taking corrective action as required to optimise volume and value of timber according to workplace procedures</p> <p>2.3 Monitor output timber for grade and size, noting any anomalies and taking corrective action as required to optimise the volume and value of timber according to workplace procedures</p> <p>2.4 Monitor equipment operation, recording faults and malfunctions and taking corrective action as necessary to optimise volume and value of timber according to workplace procedures</p>
3. Report on optimisation	<p>3.1 Record optimisation data according to workplace procedures</p> <p>3.2 Compare production data with optimisation objectives</p> <p>3.3 Report production outcomes and compliance with optimisation objectives to an appropriate person</p> <p>3.4 Make recommendations based on evidence to improve production and optimisation outcomes</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description

Skill	Description
Reading	<ul style="list-style-type: none"> Extracts essential information from visual display units and printouts to confirm optimisation objectives
Writing	<ul style="list-style-type: none"> Prepares routine written reports using the required format, language and structure
Oral communication	<ul style="list-style-type: none"> Employs active listening and questioning to clarify content of work orders
Numeracy	<ul style="list-style-type: none"> Interprets graphical and statistical data to compare production output against optimisation objectives Identifies and interprets trends and anomalies in statistical data
Navigate the world of work	<ul style="list-style-type: none"> Understands main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> Uses modes of communication suitable to purpose to confirm and clarify understanding
Get the work done	<ul style="list-style-type: none"> Recognises and responds to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPSAW4206 Monitor output timber for optimum volume and value recovery	Not applicable	New unit	No equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSAW4206 Monitor output timber for optimum volume and value recovery

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has:

- monitored output timber for optimum volume and value recovery
- in doing the above job, the individual has:
 - followed work order and relevant workplace health and safety and environmental protection procedures
 - identified, assessed and taken actions to mitigate risks and hazards associated with sawing operations
 - recorded and reported on production outcomes and their compliance with optimisation objectives
 - made recommendations based on evidence to improve production and optimisation outcomes.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- optimisation principles
- cutting patterns
- output data:
 - sources of output data
 - types of output data
 - methods of interpreting output data
 - common anomalies in output data
 - ways of validating accuracy of output data
 - corrective actions in response to common anomalies in output data

- timber processing constraints:
 - markets
 - timber supply
 - preferred products
 - downstream processing options
- types of equipment faults and appropriate corrective actions:
 - mechanical
 - hydraulic
 - pneumatic
 - electrical
 - data
 - electronic
- corrective action:
 - communication to management
 - communication to the on-site technical support person
 - communication to the off-site technical support person
 - cleaning
 - communication with maintenance staff
 - recalibration
 - changes made to the operating system according to workplace procedures
- determinants of product mix:
 - timber characteristics
 - machine capability
 - product demand
- influences on timber volume and value recovery
- methods for reusing, recycling or disposing of items that do not meet quality requirements
- risks and hazards associated with sawing operations
- safe work practices and procedures, including use of personal protective equipment (PPE) and safe manual handling techniques.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a sawmill or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - equipment and timber needed for the work
 - output data for monitoring timber volume, grade and size
 - PPE for sawmill operations

- specifications:
 - template documents for recording production outcomes
 - work order with specific instructions for optimising timber production for volume and value recovery
 - workplace procedures for optimising timber production for volume and value recovery.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSAW4207 Optimise timber production for volume and value recovery

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to optimise the volume and value of sawn timber based on analysis of timber characteristics, machine capability and product demand.

The unit applies to individuals who optimise timber production for volume and value recovery in a timber sawmill.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Sawmilling and Processing (SAW)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to optimise timber production	1.1 Review work order to determine job requirements and, where required, seek clarification from appropriate personnel

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.2 Review workplace health and safety procedures, including the use of personal protective equipment, equipment lock-out and safe manual handling techniques</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with optimising timber production</p> <p>1.4 Identify workplace environmental protection procedures for minimising and disposing of waste material, cleaning tools and equipment, and maximising energy efficiency</p> <p>1.5 Consult with appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.6 Obtain tools, equipment and timber needed for the work</p>
2. Plan to optimise the volume and value of timber production	<p>2.1 Identify cutting plan and output mix based on analysis of timber characteristics, machine capability and product demand</p> <p>2.2 Identify processing constraints and potential solutions to ensure that production and quality requirements are met</p> <p>2.3 Check input material against specification and production run requirements</p> <p>2.4 Inspect timber for defects and identify potential impact on the cutting plan, production run and product quality</p> <p>2.5 Finalise cutting plan based on inspection outcomes</p> <p>2.6 Identify implications of unsuitable planning on volume and value of timber production and associated impacts on customers and saw centre efficiency</p> <p>2.7 Check trial pieces to ensure compliance with production and product quality requirements</p> <p>2.8 Communicate cutting plan, production rate and quality requirements to appropriate personnel</p>
3. Implement and report on the optimisation plan	<p>3.1 Implement cutting plan to optimise volume and value of timber production</p> <p>3.2 Manage production rate to ensure compliance with optimisation objectives</p> <p>3.3 Monitor quality of cut timber to ensure compliance with optimisation objectives</p> <p>3.4 Manage reuse, recycling or disposal of items that do not meet quality requirements</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	3.5 Monitor product flow to optimise downstream processes according to workplace procedures
4. Report on optimisation	4.1 Review optimisation objectives in relation to timber volume and value recovery 4.2 Record production outcomes according to workplace procedures 4.3 Compare production outcomes with optimisation objectives 4.4 Report production outcomes and compliance with optimisation objectives to the appropriate person

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extracts essential information from operational manuals regarding the capability of sawing machines
Writing	<ul style="list-style-type: none"> Prepares routine written reports using the required format, language and structure
Oral communication	<ul style="list-style-type: none"> Employs active listening and questioning to clarify content of work orders
Numeracy	<ul style="list-style-type: none"> Interprets graphical and statistical data to compare production output against optimisation objectives
Navigate the world of work	<ul style="list-style-type: none"> Understands main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> Uses modes of communication suitable to purpose to confirm and clarify understanding
Get the work done	<ul style="list-style-type: none"> Recognises and responds to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPSAW4207 Optimise timber production for volume and value recovery	Not applicable	New unit	No equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSAW4207 Optimise timber production for volume and value recovery

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has:

- established and implemented a plan for optimising the volume and value recovery of timber production
- in doing the above job, the individual has:
 - followed work order and relevant workplace health and safety and environmental protection procedures
 - identified, assessed and taken actions to mitigate risks and hazards associated with sawing operations
 - recorded and reported on production outcomes and their compliance with optimisation objectives.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- optimisation principles
- cutting patterns
- timber processing constraints:
 - markets
 - timber supply
 - preferred products
 - downstream processing options
- determinants of product mix:
 - timber characteristics
 - machine capability

- product demand
- optimisation software
- influences on timber volume and value recovery
- methods for reusing, recycling or disposing of items that do not meet quality requirements
- timber defects:
 - types
 - impact on volume and value of recovered timber
 - inspection methods
- risks and hazards associated with sawing operations
- safe work practices and procedures.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a sawmill or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - optimisation software package and associated computing hardware
 - tools, equipment and timber needed for the work
 - personal protective equipment for sawmill operations
- specifications:
 - template documents for recording production outcomes
 - manufacturer instructions for optimisation software
 - work order with specific instructions for optimising timber production for volume and value recovery
 - workplace procedures for optimising timber production for volume and value recovery.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSAW4208 Plan for and coordinate timber kiln drying operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to plan, coordinate and evaluate timber kiln drying operations.

The unit applies to individuals who plan and coordinate timber drying operations in a wood products work environment.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Sawmilling and Processing (SAW)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan for implementing timber kiln drying operations	1.1 Confirm type of kiln, kiln controls and workplace drying and kiln management procedures 1.2 Review drying and production schedule and confirm production

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>targets, specifications and performance indicators</p> <p>1.3 Confirm workplace health and safety, quality and environmental protection practices and/or procedures for work task</p> <p>1.4 Confirm legislation, standards and codes of practice relevant to timber drying operations</p> <p>1.5 Identify hazards and associated risks, and implement corrective actions according to workplace procedures</p> <p>1.6 Inspect raw materials, identify possible production and quality implications and communicate variations to production methods to team members</p> <p>1.7 Assess pre-drying suitability of product, and remove non-conforming product according to workplace procedures</p> <p>1.8 Communicate drying and production schedule, production targets, specifications and performance indicators to team members</p> <p>1.9 Maintain communication with team members to ensure production schedule and workplace health and safety, environmental protection and quality requirements are met</p> <p>1.10 Plan process cycles and develop timber drying schedule</p>
2. Coordinate timber kiln drying operations	<p>2.1 Confirm capability, capacity and components of timber drying kiln and implement standard operating procedures for kiln</p> <p>2.2 Assist team members to identify faults and rectify or report production problems</p> <p>2.3 Oversee loading of timber according to quantities scheduled for drying and workplace procedures</p> <p>2.4 Check and analyse process trends</p> <p>2.5 Monitor performance of operational personnel according to workplace procedures</p> <p>2.6 Implement modifications for optimum performance in drying process</p> <p>2.7 Check and control seasoning chambers throughout drying process</p> <p>2.8 Assess and confirm timber drying performance, and identify complying product according to workplace procedures</p> <p>2.9 Oversee transfer and storage of dried timber</p> <p>2.10 Respond to breakdowns, disruptions and unplanned events according to workplace procedures</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	2.11 Complete operating logs and seasoning records 2.12 Investigate, record and report production problems and equipment faults
3. Oversee maintenance and inventory management requirements	3.1 Monitor implementation of routine and preventative maintenance and cleaning requirements 3.2 Maintain product and material inventory levels to meet production and contingency requirements
4. Evaluate timber kiln drying operations	4.1 Analyse data and observations on drying operations, faults, workplace health and safety incidents and output to identify opportunities for process improvement 4.2 Report on production, safety, environment and quality metrics to appropriate personnel according to workplace procedures 4.3 Seek comments and feedback from team members to identify opportunities for process improvement 4.4 Analyse feasibility of potential process improvements 4.5 Document process improvements and communicate to appropriate personnel according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret technical documents and workplace policies and procedures relevant to timber drying operations
Writing	<ul style="list-style-type: none"> Complete workplace documents on routine and non-routine matters for a variety of audiences related to timber drying operations
Oral communication	<ul style="list-style-type: none"> Use appropriate vocabulary to communicate on technical and work

Skill	Description
	team performance matters related to timber drying operations
Numeracy	<ul style="list-style-type: none"> Perform routine calculations related to quantity, temperature and drying times

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPSAW4208 Plan for and coordinate timber kiln drying operations	FWPSAW4203 Coordinate timber drying operations	Revised unit title Minor revisions to Application Updated Elements, Performance Criteria, Foundation Skills, Performance Evidence, Knowledge Evidence and Assessment Conditions	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSAW4208 Plan for and coordinate timber kiln drying operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has planned, coordinated and evaluated two timber drying operations.

In performing these tasks, the individual has:

- communicated and coordinated personnel effectively to follow workplace procedures, workplace health and safety and environmental protection practices and/or procedures, and planning and scheduling required for timber drying operation
- complied with legislation, standards and codes of practice relevant to timber drying operations
- monitored timber drying operations and output against confirmed production targets, specifications and performance indicators, and identified production and equipment problems and faults
- resolved one real or hypothetical problem in the timber drying operation
- recorded and reported production information including output, quality and faults
- evaluated timber drying operation and suggested one process improvement
- maintained inventory levels and coordinated equipment maintenance.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- hazards and associated risks with timber drying, and risk control strategies as identified through risk assessments, manufacturer technical information, regulations and industry health and safety guides
- key requirements of legislation, standards and codes of practice relevant to timber drying operations
- workplace procedures, policies and standards relevant to planning and coordinating timber drying regarding:

- health and safety, including the use of personal protective equipment (PPE)
- environmental protection, including safe disposal of waste material and efficient use of energy
- quality assurance, including chain of custody requirements
- communication channels and protocols to communicate with team members
- recording and reporting information on output, quality, workplace health and safety and equipment faults
- types, uses, operation, capability, capacity and components of timber drying kilns from workplace environment
- timber characteristics in relation to drying ease and susceptibility to drying degrade
- principles and purpose of timber drying process and its effect on wood end-use
- advantages and limitations of timber drying processes
- timber drying methods
- types of biological attack, their impact on visual appearance and their degrading effect on wood, including:
 - decay
 - mould
 - fungi
- effect of surface mould and sapstain fungi on drying
- factors for consideration when scheduling kiln charges to optimise production throughputs
- timber drying kiln plant control and product testing equipment
- timber moisture content, including fibre saturation point and equilibrium moisture content
- impact of moisture content and moisture gradient on the end-use effectiveness of timber
- timber drying defects, reasons and control measures
- influence of temperature, relative humidity and rate of air circulation on drying rate
- target moisture content for major product groups according to relevant Australian Standards
- kiln drying schedules for drying timber at optimal rate and target moisture content without causing unacceptable degrade
- methods for problem identification, including equipment failures at process stages, bottlenecks in production process and product variations, and resolution strategies
- process improvement for timber drying, including:
 - data
 - methods
 - participative approaches
 - communication.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:

- skills must be demonstrated in a timber processing plant, a timber product manufacturing plant or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - timber drying equipment
 - timber for drying
 - PPE required for coordinating timber kiln drying operations
 - computers, keyboards, printers and software used to prepare planning and production documents
- specifications:
 - templates for documenting relevant information on timber kiln drying
 - production schedule for timber kiln drying
 - workplace procedures for timber kiln drying
 - workplace health and safety and environmental protection policies and/or procedures applicable to timber kiln drying
- relationships:
 - work team to communicate requirements related to timber kiln drying operations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSAW4209 Plan for and supervise log processing operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to plan and supervise log processing operations in sawn product, veneer or wood chip production.

The unit applies to individuals who are engaged in the planning and supervision of log processing operations in a timber processing work environment.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Sawmilling and Processing (SAW)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan for implementing log processing operations	1.1 Review production requirements for log processing, and confirm schedules, targets, product specifications and performance indicators 1.2 Confirm workplace health and safety, quality and environmental protection practices and/or procedures and compliance with chain of

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>custody requirements</p> <p>1.3 Confirm legislation, standards and codes of practice relevant to log processing operations</p> <p>1.4 Confirm stages in log processing operations to produce sawn products, veneer or wood chips</p> <p>1.5 Identify hazards and associated risks, and implement risk control strategies as identified through risk assessments, manufacturer technical information, regulations and industry health and safety guides</p> <p>1.6 Inspect raw materials, identify possible production and quality implications and communicate variations to production methods to team members</p> <p>1.7 Communicate production schedule, targets, product specifications and performance indicators, to team members</p> <p>1.8 Maintain communication with team members to ensure production schedule and workplace health and safety, environmental protection and quality practices and/or procedures are met</p>
2. Supervise log processing operations	<p>2.1 Monitor workflow and processing operations, and check that production schedule, targets, performance indicators and product specifications are met</p> <p>2.2 Assist team members to evaluate logs and identify and resolve potential processing problems</p> <p>2.3 Monitor processing operations to ensure compliance with production schedule, quality requirements and product specifications</p> <p>2.4 Monitor implementation of quality processes, and chain of custody requirements</p> <p>2.5 Monitor operation of plant and equipment used in log processing operations</p> <p>2.6 Evaluate effectiveness of processing operations at key points</p> <p>2.7 Modify processing operations or schedules, as required, to ensure optimum performance</p> <p>2.8 Coordinate inventory management to avoid degradation, identify out-of-specification logs, confirm log grades against quality requirements, maintain inventory levels and manage processes for reuse, recycling or disposal of sub-standard logs</p> <p>2.9 Respond to breakdowns, disruptions to operations and unplanned</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>events according to workplace procedures</p> <p>2.10 Direct processed material to storage or transfer for further processing</p> <p>2.11 Record and report production data and information on processing, safety and equipment faults to appropriate personnel</p>
3. Oversee maintenance and inventory management requirements	<p>3.1 Monitor implementation of routine and preventative maintenance and cleaning requirements</p> <p>3.2 Maintain product and material inventory levels to meet production and contingency requirements</p>
4. Evaluate log processing operations	<p>4.1 Analyse data and observations on operations, faults, output and health and safety indicators to identify opportunities for process improvement</p> <p>4.2 Report on production, health and safety, environmental protection and quality metrics to appropriate personnel according to workplace procedures</p> <p>4.3 Seek comments and feedback from team members to identify opportunities for process improvement</p> <p>4.4 Analyse feasibility of potential process improvements</p> <p>4.5 Document process improvements and communicate to appropriate personnel according to workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret technical documents and workplace policies and procedures relevant to log processing operations
Writing	<ul style="list-style-type: none"> Complete workplace documents on routine and non-routine matters for a variety of audiences relevant to log processing operations
Oral communication	<ul style="list-style-type: none"> Use appropriate vocabulary to communicate on technical and work team performance matters related to log processing operations

Skill	Description
Numeracy	<ul style="list-style-type: none"> Analyse statistical data on production, quality, health and safety and environmental protection relevant to log processing operations

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPSAW4209 Plan for and supervise log processing operations	FWPSAW4202 Plan and monitor saw log operations	Unit redeveloped to increase its application and address a relevant skill or task that is required by industry	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSAW4209 Plan for and supervise log processing operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has planned and supervised the log processing operations for two production cycles for one of the following:

- sawn product production
- veneer production
- wood chip production.

In performing this task, the individual has:

- communicated and coordinated personnel effectively to follow planning, workplace health and safety, environmental protection and quality practices and/or procedures and scheduling requirements
- complied with legislation, standards and codes of practice relevant to log processing operations
- monitored the log processing operation against production schedule, targets, specifications and performance indicators, and identified and rectified operational and equipment problems and faults
- monitored implementation of quality processes and chain of custody requirements
- directed processed material to storage or transfer for further processing
- recorded and reported production information including output, quality, faults and safety data
- evaluated the log processing operation and suggested one process improvement.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- workplace procedures specific to planning and supervising log processing operations, including:
 - health and safety, including the use of personal protective equipment (PPE)
 - environmental protection, including the safe disposal of waste material
 - quality assurance and chain of custody requirements
 - communication channels and protocols to communicate with team members
 - recording and reporting information on output, quality, workplace health and safety and equipment faults
- hazards and associated risks with log processing operations, and risk control strategies as identified through risk assessments, manufacturer technical information, regulations and industry health and safety guides
- stages in log processing operations to produce sawn products, veneer or wood chips
- key requirements of legislation, standards and codes of practice relevant to log processing operations
- types, operation and capacities of log processing equipment and systems
- methods used to assess logs and identify and resolve potential processing problems
- log cutting patterns for maximising output and minimising waste
- workflow in log processing operations
- veneer/sawn timber product processing, including:
 - finished goods
 - processing quality
 - processing techniques
 - use of waste
- inventory management for planning and coordinating log processing, including:
 - avoid log degradation
 - identify out-of-specification logs
 - confirm log grades against quality requirements
 - maintain inventory levels
 - manage processes for reuse, recycling or disposal of sub-standard logs
- methods for problem identification, including equipment failures at process stages, bottlenecks in production process and product variations, and resolution strategies
- process improvement for log processing operations, including:
 - data
 - methods
 - participative approaches
 - communication.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:

- skills must be demonstrated in a timber processing plant, a timber product manufacturing or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - log processing equipment
 - computers, keyboards, printers and software used to prepare planning and production documents
 - PPE relevant to log processing operations
- specifications:
 - production requirements for log processing
 - templates for documenting relevant information on log processing production and operations
 - workplace procedures for log processing operations
 - workplace health and safety and environmental protection policies and/or procedures applicable to log processing operations
- relationships:
 - work team to communicate requirements related to log processing operations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSAW4210 Plan for and supervise timber dry mill operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to plan, supervise and evaluate the dry mill operations of a timber processing facility.

The unit applies to personnel responsible for planning and supervising dry mill operations in a timber processing work environment.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Sawmilling and Processing (SAW)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan for timber dry mill production	1.1 Review production schedule and confirm production targets, production specifications and performance indicators 1.2 Confirm workplace health and safety, quality and environmental protection practices and/or procedures

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.3 Confirm legislation, standards and codes of practice relevant to timber dry mill operations</p> <p>1.4 Identify hazards and associated risks, and implement corrective actions according to workplace procedures</p> <p>1.5 Inspect raw materials, identify possible production and quality implications and communicate variations to production methods to team members</p> <p>1.6 Communicate production schedule, production targets, product specifications and performance indicators, to team members</p> <p>1.7 Maintain communication with team members to ensure production schedule and workplace health and safety, environmental protection and quality practices and/or procedures are met</p>
2. Supervise timber dry mill production	<p>2.1 Monitor workflow and production, and check that targets, performance indicators and product specifications are met</p> <p>2.2 Monitor all stages of production process in timber dry mill operations</p> <p>2.3 Monitor operation of plant and equipment used in timber dry mill operations</p> <p>2.4 Assist team members to evaluate timber defects, identify faults and rectify or report production problems</p> <p>2.5 Monitor implementation of quality processes and chain of custody requirements</p> <p>2.6 Evaluate effectiveness of production processes at key points</p> <p>2.7 Modify production processes or schedules, as required, to ensure optimum performance</p> <p>2.8 Monitor implementation of processes for reuse, recycling or disposal of sub-standard material</p> <p>2.9 Respond to breakdowns, disruptions to production and unplanned events, including equipment failures at process stages, bottlenecks in production process and product variations, according to workplace procedures</p> <p>2.10 Direct processed timber to storage or transfer for further processing</p> <p>2.11 Investigate, record and report information on output, quality, workplace health and safety and equipment faults, and resolve or report to appropriate personnel</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
3. Oversee timber dry mill maintenance and inventory management requirements	3.1 Monitor implementation of routine and preventative maintenance and cleaning requirements 3.2 Maintain product and material inventory levels to meet production and contingency requirements
4. Evaluate timber dry mill production	4.1 Analyse data and observations on production, operations, faults and output to identify opportunities for process improvement 4.2 Report on production, health and safety, environmental protection and quality metrics to appropriate personnel according to workplace procedures 4.3 Seek comments and feedback from team members to identify opportunities for process improvement 4.4 Analyse feasibility of potential process improvements 4.5 Document process improvements and communicate to appropriate personnel according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret/analyse technical documents and workplace policies and procedures relevant to timber dry mill operations
Writing	<ul style="list-style-type: none"> Complete workplace documents on routine and non-routine matters for a variety of audiences relevant to timber dry mill operations
Oral communication	<ul style="list-style-type: none"> Use appropriate vocabulary to communicate on technical and work team performance matters related to timber dry mill operations
Numeracy	<ul style="list-style-type: none"> Analyse statistical data on production, quality, health and safety and environmental protection relevant to timber dry mill operations

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPSAW4210 Plan for and supervise timber dry mill operations	FWPSAW4205 Plan and monitor timber conversion	Unit redeveloped to increase its application and address a relevant skill or task that is required by industry	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSAW4210 Plan for and supervise timber dry mill operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has planned and supervised two production cycles for one softwood or hardwood dry mill.

In performing this task, the individual has:

- communicated and coordinated personnel to follow planning, workplace health and safety, quality and environmental protection practices and/or procedures and scheduling requirements
- complied with legislation, standards and codes of practice relevant to dry mill operations
- monitored dry mill operations and identified and rectified production and equipment problems and faults
- monitored implementation of quality processes and chain of custody requirements
- directed timber products to storage or transfer for further processing
- analysed, recorded and reported production information, including output, quality, faults and safety data
- evaluated dry mill operation and suggested one process improvement.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- health and safety hazards or risks related to timber dry mill operations as identified through risk assessments, manufacturer technical information, regulations and industry health and safety guides
- key requirements of legislation, standards and codes of practice relevant to timber dry mill operations
- workplace procedures specific to planning and supervising timber dry mill operations, including:

- health and safety, including use of personal protective equipment (PPE)
- environmental protection, including disposing, recycling and reusing timber
- quality assurance and chain of custody requirements and practices
- communication channels and protocols to communicate with team members
- recording and reporting information on output, quality, workplace health and safety and equipment faults
- purpose, features and operation of plant and equipment used in timber dry mill operations
- type, procedures, common faults and equipment used in production processes in timber dry mill operations, including:
 - unloading
 - drying
 - planing
 - scanning
 - cutting
 - end matching
 - grading
 - sorting
 - packaging
 - despatch
- methods for problem identification, including equipment failures at process stages, bottlenecks in production process and product variations, and resolution strategies
- process improvement for timber dry mill operations, including:
 - data
 - methods
 - participative approaches
 - communication.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing plant, a timber product manufacturing plant or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - timber dry mill
 - timber supplies
 - computers, keyboards, printers and software used to prepare planning and production documents
 - PPE suitable for timber dry mill operations

- specifications:
 - production requirements, quality and output data for timber dry mill operations
 - templates for documenting relevant information on timber dry mill production and operations
 - workplace procedures for timber dry mill operations
 - workplace health and safety and environmental protection policies and/or procedures applicable to timber dry mill operations
- relationships:
 - relevant personnel for the purposes of communicating requirements related to timber dry mill operations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSIL2001 Select and mark trees for tending operations

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to select and mark trees for tending treatments including thinning, pruning and treating for pests and other tending treatments used to provide a healthy environment for tree and forest growth.

The unit applies to individuals who select and mark trees as part of forestry operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Silviculture (SIL)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for tree selection and marking operations	1.1 Determine job requirements from work order or instruction, and where required seek clarification from appropriate personnel 1.2 Confirm safety and environmental requirements, including use of personal protective equipment, for the task according to workplace

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>procedures</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with tree selection and marking operations</p> <p>1.4 Identify emergency and evacuation procedures to follow in the event of an emergency</p> <p>1.5 Consult with appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.6 Select tools, equipment and materials required for task according to workplace procedures</p> <p>1.7 Plan tree selection and marking operations according to work order or instruction</p>
2. Select and mark trees for tending	<p>2.1 Locate forest area for tree selection according to work order</p> <p>2.2 Designate trees for particular tending treatments according to work order</p> <p>2.3 Mark or re-mark trees using appropriate marking method and equipment</p> <p>2.4 Make recommendations for further tree selection to appropriate personnel</p> <p>2.5 Complete records of tree selection and marking operations and forward to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extract key information from workplace documents on tree selection and marking
Writing	<ul style="list-style-type: none"> Complete workplace forms using required format, industry terminology and structure
Oral communication	<ul style="list-style-type: none"> Employ active listening and questioning to confirm work instructions

Skill	Description
Numeracy	<ul style="list-style-type: none"> Count numbers of branches and trees at regular intervals during selection process

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPSIL2001 Select and mark trees for tending operations	FWPCOT2220 Select trees for tending operations	Reworded title Updated Application Statement Reworded Element and Performance Criteria Updated Foundation Skills and Assessment Conditions	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSIL2001 Select and mark trees for tending operations

Modification History

Release	Comments
Release 1	This version released with Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence the individual has used one of the following methods to identify, select and mark trees for tending treatments as specified in one work order:

- selecting a predetermined number of trees in a given area
- counting and selecting trees at regular intervals
- selecting trees with particular characteristics
- selecting trees for particular treatment.

In undertaking this activity, then individual has:

- identified the tree selection method and planned tree selection and marking operation
- followed workplace safety and environmental requirements, including use of PPE
- marked or remarked trees for particular tending treatments including thinning, pruning, treatment for pests and other tending treatments
- completed workplace records of tree selection and marking operations including recommendations for further tree selection.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- use and care of tools and materials used to select trees for tending operations:
 - tags
 - tape
 - paint
 - tools for blaze marking
- typical workplace hazards present during tree selection activities, and methods of minimising risks:

- slope
- water
- rock
- undergrowth
- slash
- depressions and holes
- falling or fallen branches
- key types of tending treatments and their purpose:
 - thinning
 - pruning
 - disease treatment
 - cleaning
 - seed collection
- characteristics of trees and distribution relevant to tending treatments:
 - dominance and vigour
 - leader defects
 - straightness
 - lean
 - size
 - angle
 - number of branches
 - spacing and overall tree health
 - stocking
 - green crowns
 - insect infestation
- common methods used to select trees for tending operations:
 - selecting predetermined number of trees in a given area
 - counting and selecting trees at regular intervals
 - selecting trees with particular characteristics
 - selecting trees for particular treatment
- workplace procedures specific to selecting and marking trees for tending:
 - workplace health and safety, with particular emphasis on risk control and use of PPE
 - communication reporting lines.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:

- skills must be demonstrated in a forest or wood products work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - trees to be selected for tending treatments
 - materials and equipment relevant for selecting and marking trees for tending treatments, including tags, tape, paint, tools for blaze marking
 - PPE suitable for selecting and marking trees for tending treatments
- specifications:
 - work order or instruction for selecting and marking trees for tending treatments
 - workplace health, safety and environmental policies and procedures applicable to selecting and marking trees for tending treatments
 - workplace procedures for selecting and marking trees for tending.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSIL2002 Plant trees by hand

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to select suitable tree stock, assess planting site and plant trees by hand as part of forestry operations.

The unit applies to individuals who plant trees by hand as part of forestry operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Silviculture (SIL)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for planting operations	1.1 Determine job requirements from work order or instruction, and where required seek clarification from appropriate personnel 1.2 Confirm safety and environmental requirements, including use of personal protective equipment, for the task according to workplace procedures

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with manual tree planting operations</p> <p>1.4 Identify emergency and evacuation procedures to follow in the event of an incident or accident</p> <p>1.5 Consult with appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.6 Select tools, equipment and materials for manual tree planting, and check for serviceability according to workplace procedures</p> <p>1.7 Obtain, visually assess and prepare planting stock according to work order</p>
2. Assess planting site and tree stock	<p>2.1 Assess and prepare planting site according to work order</p> <p>2.2 Select work methods and patterns to suit tree type and planting site</p> <p>2.3 Select quantity of tree stock to plant according to production target and stock quality</p> <p>2.4 Confirm that required tree stock is distributed across the site ready for planting</p> <p>2.5 Identify and resolve issues associated with the site, equipment, tree stock, hazards or safety according to workplace procedures</p>
3. Plant tree stock	<p>3.1 Use tools and equipment according to workplace procedures</p> <p>3.2 Plant tree stock by hand with minimal handling, adapting work methods or patterns as required</p> <p>3.3 Identify and dispose of unsuitable tree stock according to environmental protection practices</p> <p>3.4 Maintain and store equipment and remaining tree stock according to workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description

Skill	Description
Reading	<ul style="list-style-type: none"> Extract information from industry guides and standard references on tree planting techniques
Writing	<ul style="list-style-type: none"> Complete basic records of tree planting activities
Oral communication	<ul style="list-style-type: none"> Ask open and closed questions and use active listening techniques to clarify contents of work orders Provide oral reports on tree planting activities
Numeracy	<ul style="list-style-type: none"> Complete routine calculations involving number and spacing of tree plantings

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPSIL2002 Plant trees by hand	FWPFGM2203 Plant trees by hand	Updated Application Statement Reworded Elements and Performance Criteria Updated Foundation Skills and Assessment Conditions	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSIL2002 Plant trees by hand

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has selected suitable tree stock, prepared the planting site and planted trees by hand in one sample plot of an area to be reforested.

In undertaking this activity, the individual has:

- evaluated the planting site, determined the species and quantity of trees to be planted and selected the appropriate work method taking into account site characteristics and tree stock
- complied with environmental and safety standards, including use of personal protective equipment (PPE)
- planted tree stock manually according to workplace procedures
- followed environmental protection practices in disposing of unsuitable tree stock
- maintained and stored equipment and remaining tree stock
- identified and solved one of the following problems when planting tree stock:
 - site issue
 - equipment issue
 - environmental hazard
 - safety issue
 - unsuitable planting stock
 - pests.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- typical environmental hazards present in forest planting situations, and methods of minimising risks:
 - slope
 - water

- rock
- undergrowth
- slash
- depressions and holes
- falling or fallen branches
- typical causes of stock defects:
 - pests
 - diseases
 - nutritional deficiencies
- visual characteristics of stock defects:
 - defective form, including double leaders
 - malformed or insufficient root systems
 - discoloured leaves or needles
 - root compaction in container grown stock
 - relationship between height and root collar diameter
- factors to consider for planting trees and how these affect quality and characteristics of grown trees:
 - straight positioning of seedlings
 - planting depth
 - spacing and row positioning of seedlings
 - root placement
 - soil compaction
- types of tools and equipment used to plant trees manually, and procedures for their safe use and maintenance:
 - spades
 - planting frames
 - planting tools
 - harnesses
 - augers
- workplace procedures specific to planting trees by hand:
 - workplace health and safety, with particular emphasis on risk control and use of PPE
 - communication reporting lines
- environmental protection practices for forest settings:
 - cleaning plant, tools and equipment
 - disposing of and recycling waste
 - returning the environment to its original or near to original condition on completion of activity
- safe manual handling techniques for operating in forest settings, specifically those for:
 - shifting
 - lifting

- carrying tree stock.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest or wood products work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - tree stock for planting
 - tools, equipment and materials used in manual tree planting
 - PPE suitable for manual tree planting
- specifications:
 - work order or instruction with specific instructions for types and quantities of trees to be planted
 - access to workplace health, safety and environmental policies and procedures applicable to manual tree planting
 - workplace procedures for manual tree planting.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSIL2003 Prune trees

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to select, prepare and prune trees as part of forestry operations.

The unit applies to individuals who are involved in preparing seedbeds as part of forestry operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Silviculture (SIL)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for pruning	1.1 Determine job requirements from work order or instruction, and where required seek clarification from appropriate personnel 1.2 Confirm safety and environmental requirements, including use of personal protective equipment, for the task according to workplace

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>procedures</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with tree pruning operations</p> <p>1.4 Identify emergency and evacuation procedures to follow in the event of an incident or accident</p> <p>1.5 Consult with appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.6 Select tools, equipment, machinery and materials for tree pruning operations, and check for serviceability according to workplace procedures</p>
2. Select and prune trees	<p>2.1 Identify and select trees for pruning according to work order</p> <p>2.2 Use ladder handling and pruning techniques according to workplace procedures</p> <p>2.3 Prune trees by removing branches, epicormics and green shoots to meet quality requirements</p>
3. Assess pruning quality	<p>3.1 Appraise pruned trees visually to ensure pruning quality and pruned stock level comply with work order</p> <p>3.2 Rectify incorrect pruning to ensure quality of grown trees</p> <p>3.3 Dispose of pruned material according to environmental protection practices</p> <p>3.4 Record and report pruning process and equipment faults to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> • Extract information for industry guides and standard references on tree pruning techniques • Read familiar workplace text such as safety signs and work orders

Skill	Description
Writing	<ul style="list-style-type: none"> • Complete workplace forms • Annotate site plans
Oral communication	<ul style="list-style-type: none"> • Ask open and closed questions and use active listening techniques to clarify contents of work orders • Provide oral reports on selection of pruning operations
Numeracy	<ul style="list-style-type: none"> • Identify quantity of trees to be pruned from work order and count numbers • Complete routine calculations involving tree spacing, size, lean and angle and count quantity of branches

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPSIL2003 Prune trees	FWPFGM2205 Prune trees	Updated Application Statement Reworded Elements and Performance Criteria Minor changes to Performance Evidence and Knowledge Evidence Updated Foundation Skills and Assessment Conditions	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSIL2003 Prune trees

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has completed two work orders each prescribing different quantities and species of trees to be pruned.

In undertaking this activity, the individual has:

- utilised appropriate equipment for pruning task selected from:
 - pruners
 - jack saw
 - pouch
 - steps
 - epicormic remover
 - pole saw
 - ladder
 - climbing gear
 - elevated work platform according to site requirements
- implemented workplace practices for assessing pruning quality and rectifying incorrect pruning to ensure quality of grown trees
- followed environmental protection practices for disposing of pruned materials
- complied with workplace health and safety standards, including use of personal protective equipment (PPE)
- completed workplace reports on pruning operations and equipment maintenance.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- typical workplace hazards associated with pruning trees, and methods of minimising risks:
 - slope and uneven ground

- falling or fallen branches
- ladder instability
- climbing ladders
- loss of balance
- damp conditions
- reasons for pruning trees and using particular pruning techniques
- best seasonal timing for pruning of tree species relevant to the organisation
- criteria for selecting trees for pruning:
 - prescribed defects
 - green crowns
 - dominance
 - vigour
 - straightness
 - lean
 - size
 - angle
 - number of branches
 - overall tree health
 - stocking
 - spacing and quality requirements
- purpose, features and safe operation of tree pruning tools and equipment:
 - pruners
 - jack saw
 - pouch
 - steps
 - epicormic remover
 - pole saw
 - ladder
 - climbing gear
 - elevated work platform according to site requirements
- environmental protection practices for disposing of pruned materials:
 - recycling pruned material where appropriate
 - sending pruned material to landfill only where it cannot be recycled
 - redirecting pruned material for energy recovery
- workplace procedures specific to pruning trees:
 - workplace health and safety, with particular emphasis on risk control and use of PPE
 - communication reporting lines
 - recording and reporting pruning processes and equipment faults.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest or wood products work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - trees to prune
 - tools, machinery, equipment and materials used to prune trees
 - PPE suitable for tree pruning operations
- specifications:
 - work order or instruction with specific instructions for types and quantities of trees to be pruned
 - access to workplace health, safety and environmental policies and procedures applicable to tree pruning
 - workplace procedures for tree pruning.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSIL2004 Collect forest data or samples for assessment and analysis

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to collect and record forest data and samples for assessment and analysis from specified areas.

The unit applies to individuals who are involved in collecting forest data and samples for assessment as part of forestry operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Silviculture (SIL)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for collecting forest data and samples	1.1 Determine job requirements from work order or instruction, and where required seek clarification from appropriate personnel 1.2 Confirm safety and environmental requirements, including use

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>of personal protective equipment, for the task according to workplace procedures</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with collecting forest data and samples</p> <p>1.4 Identify emergency and evacuation procedures to follow in the event of an incident or accident</p> <p>1.5 Consult with appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.6 Select tools, equipment, communication devices and materials used in collecting forest data and samples, and check for serviceability according to workplace procedures</p>
2. Collect forest data or samples	<p>2.1 Confirm data or samples to be collected</p> <p>2.2 Confirm location of sample area on map or plan</p> <p>2.3 Identify and interpret relationship between sample area and whole area</p> <p>2.4 Mark boundaries and corners for sample area using appropriate techniques</p> <p>2.5 Re-mark unclear or obliterated markings according to workplace procedures</p> <p>2.6 Apply digital technologies in forest data or sample collection as required</p> <p>2.7 Take and record measurements using appropriate equipment according to workplace and environment protection procedures</p> <p>2.8 Collect and label samples according to workplace and environment protection procedures</p>
3. Complete records	<p>3.1 Record results of data or sampling collection in a format suitable for assessment and analysis</p> <p>3.2 Check results of data or sampling collection and rectify omissions and errors</p> <p>3.3 Submit results of data or sampling collection for assessment and analysis according to workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extract information on forest data or sampling collection techniques from print and electronic sources
Writing	<ul style="list-style-type: none"> Accurately label samples and complete records for data and samples
Oral communication	<ul style="list-style-type: none"> Ask open and closed probe questions and actively listen to clarify contents of work orders
Numeracy	<ul style="list-style-type: none"> Perform routine and complex calculations and record numerical data involving number, area, ratio, percentage, volume, length and diameter

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPSIL2004 Collect forest data or samples for assessment and analysis	FWPFGM2206 Collect data or samples for assessment	Updated title Reworded Elements and Performance Evidence Updated Performance Criteria Minor updates to Knowledge Evidence Updated Foundation Skills and Assessment Conditions	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSIL2004 Collect forest data or samples for assessment and analysis

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has:

- completed one forest data or sample collection task as described in a work order that sets out the sampling area, the purpose for data or sample collection, the type of data or samples to be collected and the data or sample collection method.
- the data or sample collected must relate to one or more of the following materials:
 - foliage
 - wood
 - soil
 - seeds
 - pollen
 - weeds
 - insects
- complied with environmental and safety standards, including use of personal protective equipment (PPE)
- recorded the results of the forest data or sample collection in a format suitable for assessment or analysis.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- common purposes for collecting forest data or samples:
 - calculating volume of timber and residue
 - inventory control
 - stock count

- assisting with trials
- environmental assessment
- conducting pest and disease surveys
- documenting site factors
- cultural heritage
- methods used to identify boundaries and corners and for marking sample areas:
 - pegging
 - placing flags
 - placing balloons
 - spraying
- types of samples commonly collected, and techniques to collect and label:
 - foliage
 - wood
 - soil
 - seeds
 - pollen
 - weeds
 - insects
- typical stock defects and visual characteristics from the effects of:
 - pests
 - diseases
 - nutritional deficiencies
- typical hazards present in forest environments, and methods of minimising risks and moving through the environment safely:
 - slope
 - water
 - rock
 - undergrowth
 - slash
 - depressions and holes
 - falling or fallen branches
- format, content and use of documents used to record forest data and sample collection and methods used to record information for analysis
- purpose, features and safe operation of forest data and sample collection equipment:
 - measuring tape
 - callipers
 - measuring poles
 - paint
 - purpose-specific balloons
 - flags

- pegs
- mallet
- pruning shears
- sample containers
- digital equipment
- lasers
- Global Positioning System (GPS)
- drones
- workplace procedures specific to collecting data and samples:
 - workplace health and safety, with particular emphasis on use of PPE
 - communication reporting lines
 - recording and reporting data and sample collection.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - site for forest data or sample collection
 - tools, equipment and materials for forest data or sample collection
 - PPE suitable for forest data or sample collection
- specifications:
 - work order or instruction with specific instructions for forest data or sample collection
 - workplace health, safety and environmental policies and procedures applicable to forest data or sample collection
 - workplace procedures for forest data or sample collection.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSIL2005 Measure trees

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to measure trees, identify tree characteristics and abnormalities and record data on tree measurements, characteristics and abnormalities.

The unit applies to individuals who are involved in measuring trees as part of forestry operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Silviculture (SIL)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for measuring trees	1.1 Determine job requirements from work order or instruction, and where required seek clarification from appropriate personnel 1.2 Confirm safety and environmental requirements, including use of personal protective equipment, for the task according to workplace

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>procedures</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with measuring trees</p> <p>1.4 Identify emergency and evacuation procedures to follow in the event of an incident or accident</p> <p>1.5 Consult with appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.6 Select tools, measuring equipment and materials, and check for serviceability according to workplace procedures</p>
2. Perform tree measurements and record data on tree measurements, characteristics and abnormalities	<p>2.1 Locate forest or plot area from map or plan</p> <p>2.2 Confirm tree measuring requirements including required measuring tools and equipment</p> <p>2.3 Calculate stand height according to sampling technique</p> <p>2.4 Measure log volume and length</p> <p>2.5 Determine diameter and girth over or under bark at breast height and ground level</p> <p>2.6 Classify stem form or crown class</p> <p>2.7 Check and record tree measurements according to workplace procedures</p> <p>2.8 Identify, assess and record tree abnormalities according to workplace procedures</p> <p>2.9. Clean, maintain and store measuring tools equipment</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret instructions that combine pictorial and written information on equipment, site plans and in workplace manuals when measuring and assessing trees

Skill	Description
Writing	<ul style="list-style-type: none"> Record accurately and legibly tree measurements and factual information about tree abnormalities
Oral communication	<ul style="list-style-type: none"> Ask open and closed questions and use active listening techniques to clarify contents of work orders Provide oral reports on tree measurements
Numeracy	<ul style="list-style-type: none"> Use mathematical techniques to calculate stand height and measure dimension and volume of trees Identify, estimate and measure common angles and shapes when measuring trees

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPSIL2005 Measure trees	FWPFGM2215 Measure trees	Updated Application Statement Reworded Elements Updated and added new Performance Criteria Updated Knowledge Evidence and Performance Evidence Updated Foundation Skills and Assessment Conditions	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSIL2005 Measure trees

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has measured, identified any abnormalities and recorded data on tree measurements, characteristics and abnormalities for five trees selected from one of the following types of trees:

- native trees
- plantation trees.

In undertaking this activity, the individual has:

- carried out the following tree measurements on five native or five plantation trees without causing damage to tree, environment, equipment or personnel:
 - stand height
 - log volume and length
 - diameter and girth (over or under bark at breast height or ground level)
- classified the stem form or crown class of five native or five plantation trees
- identified tree abnormalities in five native or five plantation trees, including:
 - butt swell
 - double leaders
 - heavy branching
 - ramicorns
- used and maintained appropriate measuring tools, including:
 - diameter tapes
 - length tapes
 - optical wedges
 - clinometers
 - digital measuring equipment
- recorded data on tree measurements, characteristics and abnormalities for five native or five plantation trees

- complied with environmental and safety standards, including use of personal protective equipment (PPE).

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- purpose of measuring trees
- units of measurements used in tree measurements
- tree measuring techniques, including relevant mathematical calculations and basic trigonometry, including:
 - tolerances, allowances, calibration requirements and special procedures
 - tree diameter and girth (over or under bark at breast height or ground level)
 - tree height
 - log volume and length
- workplace procedures for measuring trees
- environmental risks and hazards associated with tree measurement
- species and characteristics of vegetation to be measured, including plantation and native forest trees
- tree abnormalities, including:
 - butt swell
 - double leaders
 - heavy branching
 - ramiforms
- types of measuring tools, and procedures for their safe use and maintenance, including:
 - diameter tapes
 - length tapes
 - optical wedges
 - clinometers
 - digital measuring equipment
- established communication channels and protocols
- procedures for recording and reporting tree measurements and abnormalities.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - forest or plot area

- tools, equipment and materials used to measure trees
- PPE used in measuring trees
- specifications:
 - map or plan containing trees to be measured
 - workplace health, safety and environmental policies and procedures applicable to measuring trees
 - workplace procedures for measuring trees.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSIL3001 Apply sustainable silviculture treatments

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to assess tree condition and select and apply sustainable silviculture treatments to meet environmental and production requirements in plantation and native forest settings.

The unit applies to individuals who are involved in applying sustainable silviculture treatments as part of forestry operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Silviculture (SIL)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for silvicultural work	1.1 Determine job requirements from work order or instruction, and where required seek clarification from appropriate personnel 1.2 Confirm safety and environmental requirements, including use of personal protective equipment, for the task according to workplace

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>procedures</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with silviculture operations</p> <p>1.4 Identify emergency and evacuation procedures to follow in the event of an emergency</p> <p>1.5 Consult with appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.6 Select tools, equipment and materials and check for serviceability according to workplace procedures</p> <p>1.7 Review regulatory requirements and sustainable forestry principles that inform the selection of silviculture treatments</p> <p>1.8 Identify target species according to approved forest operational plan and workplace procedures</p>
2. Assess tree condition	<p>2.1 Select and use appropriate techniques and tools to measure tree and stand height</p> <p>2.2 Calculate basal area and assess tree dominance and crown vigour using an approved industry process</p> <p>2.3 Determine and record standing tree defects</p> <p>2.4 Identify and mark merchantable trees according to workplace procedures</p>
3. Apply silviculture treatment	<p>3.1 Calculate and apply tree retention and stocking criteria according to operational plan</p> <p>3.2 Select sustainable silviculture treatment to meet environmental and production requirements</p> <p>3.3 Identify situations requiring specialist advice, and seek assistance as required</p> <p>3.4 Apply selected sustainable silviculture treatment according to workplace procedures</p>
4. Monitor silviculture work practices	<p>4.1 Monitor and maintain sustainable silviculture related work practices</p> <p>4.2 Identify and respond to changed conditions in the operational area by adjusting silviculture related work practices</p> <p>4.3 Assess need to implement soil conservation and erosion mitigation works to maintain or restore site and habitats</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	4.4 Identify and report non-compliant work practices to appropriate personnel 4.5 Identify improved work practices and recommend improvements to silviculture operations
5. Maintain records	5.1 Revise and update forest operational plan and workplace procedures as required 5.2 Record and report silviculture activities to appropriate personnel

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extract information from complex texts on sustainable silviculture principles and treatments
Writing	<ul style="list-style-type: none"> Complete workplace forms using required format, industry terminology and structure
Oral communication	<ul style="list-style-type: none"> Employ active listening, questioning and effective verbal and non-verbal communication to communicate with crew members about compliant and non-compliant work practices
Numeracy	<ul style="list-style-type: none"> Apply numerical skills to take measurements and calculate and interpret statistical data on tree condition

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPSIL3001 Apply sustainable silviculture treatments	FWPCOT3255 Apply silvicultural principles	Reworded title Updated Application Statement Reworded Elements and	Not equivalent

		Performance Criteria Minor changes to Performance Evidence Updated Knowledge Evidence Updated Foundation Skills and Assessment Conditions	
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Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSIL3001 Apply sustainable silviculture treatments

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has assessed tree condition and selected, applied, monitored and reported on the use of one silviculture treatment in one sample plot in one of the following types of forested areas:

- plantation
- native forest.

In undertaking this activity, the individual has:

- assessed tree condition in one sample plot
- selected and applied one of the following sustainable silviculture treatments in the sample plot to meet production and environmental requirements:
 - slash or harvesting residue burning
 - scarification
 - enhancement planting or supplementary planting
 - fertilisation
 - thinning
 - pruning
 - waste thinning and non-commercial thinning
 - commercial thinning
 - harvesting
 - gapping
- monitored the implementation of the selected sustainable silviculture treatment
- reported on the effectiveness of the selected sustainable silviculture treatment.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- principles of sustainable forestry:
 - conservation of biological diversity
 - maintenance of productive capacity of forest ecosystems
 - maintenance of ecosystem health and vitality
 - conservation and maintenance of soil and water resources
 - maintenance of forest contribution to global carbon cycles
 - maintenance and enhancement of long-term multiple socioeconomic benefits
 - legal, institutional and economic framework for forest conservation and sustainable management
- legislative and regulatory requirements relevant to silviculture operations in plantation and native forest settings
- environmental protection requirements relevant to silviculture operations
- sustainable silviculture treatments:
 - slash or harvesting residue burning
 - scarification
 - enhancement planting or supplementary planting
 - fertilisation
 - thinning
 - pruning
 - waste thinning and non-commercial thinning
 - commercial thinning
 - harvesting
 - gapping
- growth habits of specific species under varying soil and environmental conditions
- tree retention
- stocking criteria
- regeneration requirements of different plantation and native tree species
- soil conservation and erosion mitigation techniques and their advantages and disadvantages for specific sites and habitats
- changes in forest or plantation conditions that may require adjustments to silviculture work practices to protect environment:
 - recently declared or potentially rare and endangered species identified
 - unexpected flora or fauna encountered
 - new or potential habitat
 - ecology or ecosystem changes
 - undergrowth and ground cover
 - canopy

- environmental features
- operational conditions
- ground conditions
- weather conditions
- wind
- dust
- smoke
- fire
- cultural sensitivity
- forest type
- land tenure
- quality of roads and tracks
- neighbouring stakeholders
- effective communication procedures and protocols
- procedures for recording and reporting workplace activity.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest or wood products work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - native forest or plantation
 - materials and equipment required for applying different silviculture treatments
 - personal protective equipment
- specifications:
 - workplace health, safety and environmental policies and procedures applicable to the use of sustainable silviculture treatments
 - workplace procedures for sustainable silviculture treatments.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSIL3002 Plant trees mechanically

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to select suitable tree stock, prepare the planting site and plant trees mechanically.

The unit applies to individuals who are involved in planting trees mechanically as part of forestry operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Silviculture (SIL)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for mechanical planting operations	1.1 Determine job requirements from work order or instruction, and where required seek clarification from appropriate personnel 1.2 Confirm safety and environmental requirements, including use of personal protective equipment, for the task according to workplace

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>procedures</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with mechanical tree planting operations</p> <p>1.4 Identify emergency and evacuation procedures to follow in the event of an incident or accident</p> <p>1.5 Consult with appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.6 Select tools, equipment, machines and materials for mechanical tree planting, and check for serviceability according to workplace procedures</p> <p>1.7 Obtain, visually assess and prepare planting stock according to work order</p>
2. Assess planting site and stock	<p>2.1 Assess and prepare planting site according to work order</p> <p>2.2 Select quantity of tree stock to plant according to production target and stock quality</p> <p>2.3 Select work methods and patterns to suit tree type, plant site and type of equipment</p> <p>2.4 Identify and resolve issues associated with the site, equipment, tree stock, hazards or safety according to workplace procedures</p>
3. Plant forest trees	<p>3.1 Conduct pre-operational checks of planting machine and report faults if identified</p> <p>3.2 Use planting machine to plant tree stock according to production target, manufacturer instructions and workplace procedures</p> <p>3.3 Identify and dispose of unsuitable tree stock according to environmental protection practices</p> <p>3.4 Maintain and store planting machine, tools, equipment and remaining tree stock according to workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extract information from industry guides and standard references on mechanical tree planting procedures
Writing	<ul style="list-style-type: none"> Complete basic records of tree planting activities
Oral communication	<ul style="list-style-type: none"> Ask open and closed questions and use active listening techniques to clarify contents of work orders Provide oral reports on tree planting activities
Numeracy	<ul style="list-style-type: none"> Complete routine calculations involving number and spacing of tree plantings

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPSIL3002 Plant trees mechanically	FWPFGM2204 Plant trees mechanically	Updated Application Statement Reworded Elements and Performance Criteria Updated Foundation Skills and Assessment Conditions	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSIL3002 Plant trees mechanically

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has selected suitable tree stock, prepared the planting site and planted trees mechanically in one sample plot of an area to be reforested.

In undertaking this activity, the individual has:

- evaluated the planting site, determined the species and quantity of trees to be planted and selected the appropriate work method taking into account site characteristics, machine type and tree stock
- complied with environmental and safety standards, including use of personal protective equipment (PPE)
- safely set up and operated a planting machine to plant forest trees taking into account production target, machine capacity, manufacturer instructions and workplace procedures
- followed environmental protection practices in disposing of unsuitable tree stock
- maintained and stored planting machine and remaining tree stock
- identified and resolved one problem associated with mechanically planting tree stock selected from:
 - mechanical equipment fault or malfunction
 - environmental hazard
 - safety hazard
 - site characteristic
 - unsuitable planting stock
 - pest or disease.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- typical hazards present in mechanised forest tree planting situations:

- slope
- water
- rock
- undergrowth
- slash
- depressions and holes
- falling or fallen branches
- equipment hazards
- fuel
- manual handling
- typical tree stock defects and visual characteristics:
 - pests
 - diseases
 - nutritional deficiencies
- factors to consider for planting trees, and how these affect quality and characteristics of grown trees:
 - planting depth
 - spacing and row positioning of seedlings
 - root placement
- purpose, features, operation and maintenance of tree planting machines
- workplace procedures specific to planting trees mechanically:
 - workplace health and safety, with particular emphasis on equipment lock-out, risk control and use of PPE
 - communication reporting lines
- environmental protection practices for forest settings:
 - cleaning plant, tools and equipment
 - disposing of and recycling waste
 - returning the environment to its original or near to original condition on completion of activity
- safe manual handling techniques for operating in forest settings, specifically those for:
 - shifting
 - lifting
 - carrying tree stock.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest or wood products work environment or an environment that accurately represents workplace conditions

- resources, equipment and materials:
 - tree stock for planting
 - planting machine, tools, equipment and materials used in mechanical tree planting
 - PPE suitable for mechanical tree planting
- specifications:
 - work order or instruction with specific instructions for types and quantities of trees to be planted
 - workplace health, safety and environmental policies and procedures applicable to mechanical tree planting
 - workplace procedures for mechanical tree planting.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSIL3003 Use mechanised equipment for forestry site preparation

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to perform forestry site preparation activities using mechanised equipment.

Individuals seeking to undertake this unit should have prior experience or competency in *operating a bulldozer, excavator, skidder or tractor*.

The unit applies to individuals who use forestry machines for forestry site preparation operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Silviculture (SIL)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for site	1.1 Determine job requirements from work order or instruction, and

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
preparation activities	<p>where required seek clarification from appropriate personnel</p> <p>1.2 Confirm safety and environmental protection requirements, including use of personal protective equipment, for the task according to workplace procedures</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with using mechanised equipment for forestry site preparation</p> <p>1.4 Identify emergency plan procedures</p> <p>1.5 Identify location of site preparation task and plan site preparation activities according to work order or instruction</p> <p>1.6 Consult with appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.7 Select and check the serviceability of mechanised equipment and ground-engaging attachments required for site preparation task</p> <p>1.8 Check positioning of warning signs and operation of vehicle-to-vehicle communication systems to maintain communication and workplace safety during forestry site preparation operations</p>
2. Prepare forestry site using mechanised equipment	<p>2.1 Carry out pre-start and start-up machine checks according to manufacturer instructions and workplace procedures</p> <p>2.2 Identify machine faults or defects and rectify or report within scope of own responsibility according to workplace procedures</p> <p>2.3 Drive, control and manoeuvre machine with ground-engaging attachments, to perform site preparation activities according to equipment capabilities, site characteristics and work order or instructions</p> <p>2.4 Engage and disengage attachment according to manufacturer instructions and workplace procedures</p> <p>2.5 Identify, remove or manage contaminants according to workplace procedures</p> <p>2.6 Monitor and manage machine performance using appropriate indicators to ensure efficiency of operations</p> <p>2.7 Carry out and monitor site preparation activities to ensure compliance with work order and environment protection requirements</p> <p>2.8 Monitor hazards and risks during operations and ensure safety of self, other personnel, plant and equipment</p> <p>2.9 Park, shut down, secure and carry out post-operational inspection</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	of machine according to workplace procedures 2.10 Complete report on site preparation activities and forward to appropriate personnel
3. Carry out operator maintenance	3.1 Lock out machine according to workplace safety and manufacturer requirements 3.2 Access tools and service equipment required for performing routine maintenance according to manufacturer instructions 3.3 Check machine and ground-engaging attachments for wear and damage and perform operator maintenance tasks according to manufacturer recommendations and workplace procedures 3.4 Complete maintenance records according to manufacturer and workplace requirements.

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret workplace documentation to determine work requirements
Writing	<ul style="list-style-type: none"> Use technical and enterprise specific vocabulary to accurately and legibly complete workplace records and forms
Oral communication	<ul style="list-style-type: none"> Ask questions to clarify contents of production plans
Numeracy	<ul style="list-style-type: none"> Interpret numerical and graphical information shown on screens, displays and gauges

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status

FWPSIL3003 Use mechanised equipment for forestry site preparation	FWPHAR3233 Use mechanised equipment for forestry site preparation on steep slope	New title Minor edits to Performance Criteria New Performance Evidence and added item in Knowledge Evidence	Not equivalent
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Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSIL3003 Use mechanised equipment for forestry site preparation

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has prepared one forestry site using one item of mechanised equipment and relevant ground engaging attachments selected from:

- bulldozer
- excavator
- skidder
- tractor.

In undertaking this activity, the individual has:

- used two of the following forestry site preparation methods:
 - mounding
 - scaling
 - scarification
 - disc trenching
 - shearing
 - piling
 - bedding
 - ploughing
 - raking
 - ripping
 - drum chopping
 - disking
 - scalping
 - mulching
- conducted the forestry site preparation activities on one of the following terrain types:

- flat terrain
- steep slopes
- carried out routine maintenance on the selected mechanical equipment and attachments
- complied with environmental and safety standards, including use of personal protective equipment (PPE)

recorded and reported production outcomes, equipment faults and operator machine maintenance activities.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- information and requirements in production, site safety and environmental management plans relevant to forest site preparation operations
- industry standards, codes of practice and guidelines for forest site preparation operations, and their requirements as outlined in site safety and environmental management plans
- safe work procedures and safe working zones in forest site preparation operations
- hazards and risks related to operating mechanised equipment for forestry site preparation, and factors that can change or introduce new hazards
- types and correct positioning of warning signs, vehicle-to-vehicle communication systems and procedures to maintain communication and workplace safety during forestry site preparation operations
- firefighting and emergency response procedures
- potential environmental impacts of forestry site preparation activities on:
 - cultural heritage
 - flora
 - fauna
 - ground compaction
 - water contamination
 - soil erosion
- forestry site preparation activities:
 - mounding
 - scaling
 - scarification
 - disc trenching
 - shearing
 - piling
 - bedding
 - ploughing
 - raking
 - ripping

- drum chopping
- disking
- scalping
- mulching
- environmental protection procedures relevant to forest site preparation operations
- types and uses of ground-engaging attachments
- effects of slope and terrain conditions on equipment setup, operation and stability
- machine specifications, restrictions and safe operating procedures, stability and operation in different terrain conditions and slopes, and methods to shut down the machine as outlined in workplace procedures or operator manual
- methods to conduct machine pre-operational checks and detect faults as outlined in workplace procedures or operator manual
- machine maintenance and servicing requirements as outlined in operator manuals
- reporting requirements regarding site, incident and hazard, personal reporting, check-in, production, and equipment maintenance
- features, components, capacity and uses of mechanised equipment used in forestry site preparation
- reasons and procedures for maintenance of mechanised equipment and ground-engaging attachments.
-

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forestry environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - mechanised equipment and ground-engaging attachments used in forestry site preparation
 - forestry site for site preparation activities
 - PPE required in site preparation operations
 - vehicle-to-vehicle communication system
- specifications:
 - work order or instruction detailing forestry site preparation activities to be carried out by operator
 - workplace safety and environmental protection policies and procedures applicable to forestry site preparation activities operations
 - production plan
 - site emergency procedure
 - workplace safe operating procedures for mechanised equipment used in forestry site preparation

- user manual for vehicle-to-vehicle communication system.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSIL4001 Plan for and coordinate forest site preparation operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to plan for and coordinate forest site preparation activities to create favourable growing areas for seedlings and good germination spots for seeds.

The unit applies to individuals involved in planning and supervising site preparation activities as part of forestry operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Silviculture (SIL)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for site preparation	1.1 Confirm site location and site preparation requirements according to site preparation plan

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.2 Confirm local authority coverage, forest establishment boundaries and forest design plan</p> <p>1.3 Confirm site environmental protection measures to minimise detrimental or excessive soil disturbance and other adverse environmental impacts</p> <p>1.4 Confirm fire prevention measures to minimise risk of fire in ground vegetation and logging debris</p> <p>1.5 Review site characteristics and confirm site preparation methods and equipment to be used according to site preparation plan</p> <p>1.6 Schedule personnel, site preparation activities, materials and equipment</p> <p>1.7 Determine cost of site preparation operations</p>
2. Coordinate site preparation	<p>2.1 Direct personnel undertaking site preparation activities</p> <p>2.2 Schedule implementation of site preparation activities according to site preparation plan</p> <p>2.3 Review and adjust planned site preparation activities, taking into account actual site conditions</p> <p>2.4 Select treatment pattern, taking into account time restraints, site characteristics, planter access and aspect according to site preparation plan</p> <p>2.5 Communicate with forestry management company personnel and operational staff, including fire management personnel, to ensure that work is coordinated effectively on site</p> <p>2.6 Coordinate implementation of fire prevention and control measures according to workplace procedures</p>
3. Monitor site preparation	<p>3.1 Coordinate implementation of sampling techniques to monitor site preparation operations according to workplace procedures and contract requirements</p> <p>3.2 Communicate with operational staff to collect and collate data from sample plots</p> <p>3.3 Review data from sample plots and coordinate remedial action as required</p> <p>3.4 Report on site preparation operations to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret familiar and detailed organisational policies and procedures and complex documents such as forest site preparation plans
Writing	<ul style="list-style-type: none"> Produce detailed reports on the outcomes of forest site preparation activities
Oral communication	<ul style="list-style-type: none"> Ask open and closed questions and use active listening techniques to gather information related to forest establishment activities
Numeracy	<ul style="list-style-type: none"> Use mathematical skills to estimate and calculate costs associated with site preparation operations

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPSIL4001 Plan for and coordinate forest site preparation operations	FWPFGM2202 Prepare seedbed	New title Updated Application Statement Updated Elements and added new Performance Criteria Updated and added new Knowledge Evidence and Performance Evidence Updated Foundation Skills Updated Assessment Conditions	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSIL4001 Plan for and coordinate forest site preparation operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has planned, coordinated and monitored one site preparation operation in one of the following types of forested areas:

- native forest
- plantation.

In undertaking this activity, the individual has:

- reviewed the site preparation plan and confirmed the site location, preparation requirements, local authority coverage, forest establishment boundaries, forest design plan, fire prevention and site environmental protection measures
- confirmed site characteristics, site preparation methods and personnel, equipment and materials requirements
- determined the cost of site preparation operations
- coordinated and monitored site preparation activities
- reviewed sampling data and reported on site preparation operations according to workplace procedures.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- soil profile:
 - vegetation
 - humus
 - mineral soil
- purpose of site preparation:
 - quick development of the root system (good establishment)

- high survival
- good growth
- ways in which site preparation improves growing conditions:
 - temperature in root zone increased
 - available oxygen in soil increased
 - risk of frost damage decreased
 - moisture problems can be overcome
 - competing vegetation reduced
 - nutrient availability increased
 - risk of insect attack decreased
 - planting can be easier
- consequences of use of incorrect site preparation methods
- environmental impact of site preparation:
 - soil compaction and displacement
 - sedimentation of waterways
 - habitat loss
- characteristics of sites not suitable for mechanised site preparation:
 - dry nutrient-poor soils
 - naturally regenerated sites
 - small wet pockets
- procedure for site preparation planning, including determination of cost of site preparation operations
- equipment and site preparation methods:
 - mounding
 - scaling
 - scarification
 - disc trenching
 - shearing
 - piling
 - bedding
 - ploughing
 - raking
 - ripping
 - drum chopping
 - disking
 - scalping
 - mulching
- criteria for choosing site preparation method
- methods for matching the site preparation method to the actual site, taking into account:
 - soil texture

- slash and obstacles
- humus layer
- slope
- treatment patterns:
 - concentric pattern
 - back and forth pattern
- monitoring site preparation:
 - sampling methods used for different soil preparation methods
 - remediation treatments.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - a site preparation plan
 - a section of native forest or plantation where site preparation operations are to be implemented
 - required equipment and materials for planned site preparation operations
 - personnel to undertake forest site preparation operations
- specifications:
 - workplace health, safety and environmental policies and procedures applicable to forestry operations
 - workplace policies and procedures relevant to forest site preparation activities.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSIL4002 Plan for and coordinate thinning operations in a native forest or plantation

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to plan, coordinate and monitor the implementation of thinning operations in a native forest or plantation.

The unit applies to individuals whose work involves planning and coordinating the implementation of thinning operations in a native forest or plantation.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Silviculture (SIL)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan thinning operations	1.1 Identify stand to be thinned and confirm details of stand health and measurements provided by the planning team 1.2 Identify sample area and measure growth

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.3 Establish level of overwood treatment, taking account of habitat and seed tree considerations</p> <p>1.4 Select thinning method according to workplace procedures</p> <p>1.5 Document thinning plan, including resource requirements, thinning method, risk analysis and costs, and communicate to appropriate personnel</p> <p>1.6 Seek and obtain necessary approvals for thinning plan</p>
2. Coordinate and monitor implementation of thinning operations	<p>2.1 Coordinate and schedule personnel, materials and equipment required for thinning operation</p> <p>2.2 Communicate thinning plan to operational personnel to ensure safety and effective implementation of thinning plan</p> <p>2.3 Confirm tree marking prior to treatment according to workplace procedures</p> <p>2.4 Identify monitoring points according to plan and workplace procedures</p> <p>2.5 Monitor thinning operations to ensure compliance with production, quality, safety and environmental requirements</p> <p>2.6 Adjust thinning activities, as required, to meet site conditions, ensure effective and efficient work and minimise damage to stand</p>
3. Review and report on thinning operations	<p>3.1 Assess and evaluate data from thinning operations to confirm techniques, methodologies and costs are consistent with plan</p> <p>3.2 Identify and document issues and impediments to thinning activities and program costs</p> <p>3.3 Review thinning operation and make recommendations to improve future thinning operations</p> <p>3.4 Record and report outcomes of thinning operation to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extract information from industry guides and standard references on planning and coordinating thinning operations
Writing	<ul style="list-style-type: none"> Prepare written reports for different audiences on thinning operations
Oral communication	<ul style="list-style-type: none"> Use information and persuasive language in conversations and oral presentations to gain approvals for thinning activities
Numeracy	<ul style="list-style-type: none"> Itemise and calculate total cost of thinning operations

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPSIL4002 Plan for and coordinate thinning operations in a native forest or plantation	FWPFGM3206 Plan and implement non-commercial thinning operations	Reworded title Updated Application Statement Reworded Elements Updated Performance Criteria, Performance Evidence and Knowledge Evidence Updated Foundation Skills and Assessment Conditions	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSIL4002 Plan for and coordinate thinning operations in a native forest or plantation

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has planned, coordinated and monitored the implementation of one thinning operation in one of the following types of forested areas:

- native forest
- plantation.

In undertaking this activity, the individual has:

- planned and coordinated the implementation of a thinning operation to achieve one or more of the following:
 - maintain stand health
 - improve productivity and long-term sustainability
 - provide for end product mix requirements
 - manage notifiable weeds
- determined and scheduled personnel, equipment and materials required for thinning operation
- communicated with and supervised operational personnel involved in thinning activities
- monitored thinning operations to ensure compliance with production, quality, safety and environmental requirements
- reviewed and reported on outcomes of thinning operations.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- purpose of thinning operations:
 - maintain the health of the stand
 - improve productivity and long-term sustainability

- provide for end product mix requirements
- manage notifiable weeds
- reduce fire risk and disease
- regulate growth rate
- reduce competition in root and crown
- workplace procedures for planning and implementing thinning operations
- environmental protection requirements relevant to planning and implementing thinning operations
- methods and products used for thinning operations, including:
 - mechanical
 - chemical
- measurements relevant to thinning operations:
 - height
 - girth
 - number
 - spread
- processes for managing risks and hazards associated with thinning operations
- safe handling, use, transport and storage of chemicals
- relevant biology and stand dynamics for the species
- common diseases, pests and nutritional deficiencies for the species being thinned
- common weed and herbicide interactions
- monitoring points:
 - time based
 - frequency based
 - stream monitoring
 - mechanical damage to trees
- types, safe use and maintenance of tools and equipment used for thinning operations
- authorisations and approvals processes, including:
 - permits
 - approvals
 - licenses relating to neighbouring sites or properties
 - hours of operation
 - use and application of chemicals
- procedures for recording and reporting workplace information.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:

- skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - forest or plantation stand to be thinned
 - personnel to undertake thinning operations
- specifications:
 - workplace health, safety and environmental policies and procedures applicable to thinning operations
 - workplace procedures for thinning operations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSIL4003 Plan for and coordinate stem improvement operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to plan, coordinate and monitor stem improvement activities using pruning techniques and/or biological and chemical agents.

The unit applies to individuals who plan and coordinate stem improvement activities as part of forestry operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Silviculture (SIL)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan stem improvement operations	1.1 Source information on stem improvement planning 1.2 Identify and select stem improvement methods for managing stem

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>quality and growth consistent with product requirements</p> <p>1.3 Confirm workplace health, safety and environmental policies and procedures, including use of personal protective equipment, applicable to stem improvement activities</p> <p>1.4 Determine and document measurable performance indicators, specifications and targets for stem improvement operations</p> <p>1.5 Identify, seek and obtain required approvals from relevant authorities</p> <p>1.6 Document stem improvement plan according to workplace procedures</p> <p>1.7 Disseminate stem improvement plan and performance indicators to appropriate personnel</p>
2. Coordinate the implementation of stem improvement operations	<p>2.1 Coordinate and schedule resources required for stem improvement activities</p> <p>2.2 Schedule personnel, activities, materials and equipment required for stem improvement operations</p> <p>2.3 Supervise the work of personnel involved in stem improvement activities to achieve planned outcomes</p> <p>2.4 Carry out systematic checks to ensure compliance requirements are met</p> <p>2.5 Monitor and adjust stem improvement activities as required</p> <p>2.6 Identify and control risks and hazards in work area</p>
3. Review stem improvement operations	<p>3.1 Assess and evaluate data from operations to confirm methods and costs are consistent with plan</p> <p>3.2 Identify and document issues and impediments to stem improvement activities and program costs</p> <p>3.3 Review stem improvement activities and make recommendations to improve future improvement operations</p> <p>3.4 Record and report outcomes of stem improvement activities to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extract information from industry guides and standard references on different types of stem improvement activities
Writing	<ul style="list-style-type: none"> Prepare written reports for different audiences on stem improvement activities
Oral communication	<ul style="list-style-type: none"> Use clear, familiar and concise language and non-verbal communication techniques when directing activities of work teams
Numeracy	<ul style="list-style-type: none"> Itemise and calculate total cost of stem improvement activities

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPSIL4003 Plan for and coordinate stem improvement operations	FWPFGM3207 Coordinate stem improvement	Reworded title Updated Application Statement Reworded Elements Updated and added new Performance Criteria Updated and added new Knowledge Evidence and Performance Evidence Updated Foundation Skills Updated Assessment Conditions	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSIL4003 Plan for and coordinate stem improvement operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has planned, coordinated and monitored stem improvement activities for one sample forested area using one of the following methods:

- pruning using mechanical or hand tools
- using chemicals or biological agents.

In undertaking this activity, the individual has:

- planned and coordinated a safe and effective stem improvement operation
- ensured personnel involved in stem improvement operations complied with workplace health, safety and environmental policies and procedures including:
 - recycling pruned material
 - disposing of pruned material that cannot be recycled due to chemicals or biological agents used
- identified and recommended methods and strategies to manage stem quality and growth
- determined and documented measurable performance indicators, specifications and targets for work
- supervised staff involved in carrying out stem improvement activities
- monitored stem improvement operation for efficiency and effectiveness
- reviewed and reported on outcomes of stem improvement activities.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- purpose of stem improvement:
 - encourage tree growth to suit marketing requirements
 - increase yield

- reduce tree defects
- regulations, standards, codes of practice and safe practices for coordinating stem improvement
- environmental protection requirements, including the safe disposal of waste material and chemicals
- stem improvement methods:
 - pruning using mechanical or hand tools
 - using chemicals or biological agents
- pruning techniques for target species
- tools and equipment used for stem improvement operations, and their safe use and maintenance, including:
 - pruners
 - jack saw
 - pouch
 - steps
 - epicormic remover
 - pole saw
 - ladder
 - climbing gear
- procedures for working safely at heights
- safe handling, use, storage and transport of chemicals
- procedures for recycling pruned material
- procedures for disposing of pruned material that cannot be recycled due to chemicals or biological agents used
- recognition and identification of species and plant identification sources
- approvals and documentation required for the use of chemical or biological agents
- hazards that may apply to stem improvement activities, including:
 - adverse weather conditions
 - adverse terrain conditions
 - use of machinery
 - use of chemicals or biological agents
 - procedures for recording and reporting workplace information.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:

- site that requires stem improvement operations
- tools, machinery, equipment and materials for stem improvement activities
- personal protective equipment suitable for stem improvement activities
- personnel to undertake stem improvement activities
- specifications:
 - workplace health, safety and environmental policies and procedures applicable to stem improvement activities.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSIL4004 Plan for and coordinate forest establishment operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to plan and coordinate forestry operations for establishing or re-establishing a section of native forest or plantation, either in a monoculture or multiple-use environment.

The unit applies to individuals involved in planning and supervising forest establishment operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Silviculture (SIL)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for implementation of forest	1.1 Review forest establishment plan 1.2 Confirm local authority coverage, forest boundaries and forest

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
establishment operations	<p>design plan</p> <p>1.3 Confirm forest location and access for personnel and equipment</p> <p>1.4 Check land use zoning and planning permits for approval status</p> <p>1.5 Confirm procedures and environmental considerations for preparation of roads, landings, dumps and snig tracks</p> <p>1.6 Check site environmental protection measures</p>
2. Coordinate forest establishment operations	<p>2.1 Confirm forest establishment method</p> <p>2.2 Confirm type and availability of species for establishment and planting strategies</p> <p>2.3 Review site characteristics and how they will impact forest establishment including planting near waterways</p> <p>2.4 Schedule personnel, activities, materials and equipment</p> <p>2.5 Direct personnel undertaking establishment activities according to establishment plan</p> <p>2.6 Ensure personnel engaged in establishment activities comply with safety, environmental, legislative and workplace requirements</p> <p>2.7 Coordinate implementation of forest establishment plan, including planting strategy</p>
3. Monitor and review forest establishment operations	<p>3.1 Inspect implementation of environmental protection measures for the landscape, soil and drainage</p> <p>3.2 Communicate with operational staff, clients and contractors during the establishment phase to ensure smooth operation and progress</p> <p>3.3 Monitor operational activities for potential improvements</p> <p>3.4 Record and report on implementation of forest establishment operations according to workplace requirements</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret familiar and detailed organisational policies and procedures and complex documents such as forest establishment plans
Writing	<ul style="list-style-type: none"> Produce detailed reports on the outcomes of forest establishment activities
Oral communication	<ul style="list-style-type: none"> Ask open and closed questions and use active listening techniques to gather information related to forest establishment activities
Numeracy	<ul style="list-style-type: none"> Use mathematical skills to estimate and calculate area, perimeter, slope, quantities and time required to complete tasks

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPSIL4004 Plan for and coordinate forest establishment operations	FWPFGM4201 Implement a forest establishment plan	<p>New title</p> <p>Revised Elements and Performance Criteria</p> <p>New description provided for Foundation Skills</p> <p>Revised Performance Evidence and Knowledge Evidence</p> <p>Revised Assessment Conditions in line with requirements of Standards for Training Packages</p>	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSIL4004 Plan for and coordinate forest establishment operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has planned and coordinated forestry operations for establishing or re-establishing one section of a native forest or plantation in one of the following environments:

- monoculture environment
- multiple-use environment.

In undertaking this activity, the individual has:

- reviewed the forest establishment plan, and confirmed the method of forest establishment, planting strategy and personnel, equipment and materials requirements
- coordinated and scheduled the implementation of forest establishment activities
- identified ways of improving future forest establishment or re-establishment operations
- ensured personnel engaged in establishment activities complied with establishment plan, safety, environmental, legislative and workplace requirements
- reviewed and reported on the outcomes of forest establishment operations.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- environmental protection requirements for the establishment of a forest, including the following:
 - ground growth
 - canopy
 - general forest lean
 - wind speed and direction
 - fallen trees

- density of trees
- ground slope
- soil and water protection
- ground hazards
- obstacles
- drainage
- workplace policies and procedures for implementing a forest establishment plan
- forest establishment and planning procedures, including:
 - forest design and map details
 - site preparation
 - access considerations
- planting for forest or streamside:
 - buffers
 - filter strips
 - contours
 - gullies
 - crossing points
- environmental considerations for protection of:
 - habitat
 - rainforest
 - flora and fauna
 - landscape
 - excluded areas
 - rubbish removal
- procedures and environmental considerations for preparation of:
 - permanent roads
 - temporary roads
 - landings
 - dumps
 - snig tracks
 - forwarding tracks
 - adjoining land
 - wet weather restrictions
 - fire protection requirements
- forest design and planting strategies
- regeneration principles and methods
- topography, including:
 - terrain levels
 - soil types
 - contours

- elevations
- slopes
- gullies
- adjoining land parcels
- land use zoning and relevant approvals and permits, including:
 - private zoning
 - government zoning
- resources, tools and equipment used for the implementation of a forest plan, and procedures for their safe use and maintenance.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - a forest establishment plan
 - a section of native forest or plantation that may be either a monoculture or multiple-use environment
- specifications:
 - workplace safety and environmental policies and procedures applicable to forestry operations
 - workplace policies and procedures relevant to forest establishment activities.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSIL4005 Plan for and coordinate a stand health and nutrition program

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to plan and monitor the health and nutrition of a stand of trees.

The unit applies to individuals whose work involves managing the health and nutrition of trees in a forest.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Silviculture (SIL)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan stand health and nutrition program	1.1 Review stand health and nutrition requirements and site environmental protection measures and regulations 1.2 Obtain and analyse information that will impact on stand health

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>and nutrition planning</p> <p>1.3 Select methods of ensuring stand health and maintaining the appropriate level of stand nutrition</p> <p>1.4 Develop and document performance indicators and targets for stand health and nutrition</p> <p>1.5 Obtain required approvals from relevant authorities</p> <p>1.6 Document and communicate stand health and nutrition program to appropriate personnel</p>
2. Implement and monitor stand health and nutrition program	<p>2.1 Communicate stand health and nutrition program to operational staff</p> <p>2.2 Coordinate resources required for implementation of the stand health and nutrition program</p> <p>2.3 Monitor the implementation of the stand health and nutrition program and make necessary adjustments</p> <p>2.4 Identify problems with stand health and nutrition, including nutritional deficiencies in target species, and recommend suitable remedial strategies</p> <p>2.5 Ensure compliance with workplace procedures and safety and environment protection requirements</p> <p>2.6 Identify and control potential and existing risks and hazards in the work area</p> <p>2.7 Respond to matters that impact or are likely to impact on stand health and nutrition</p>
3. Review outcomes of stand health and nutrition program	<p>3.1 Collect data on stand health and nutrition, and review effectiveness of activities</p> <p>3.2 Analyse budgets and cost-effectiveness of stand health and nutrition program</p> <p>3.3 Document outcomes of the stand health and nutrition program against established performance indicators, and report to relevant personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret familiar and detailed workplace policies and procedures and complex documents
Writing	<ul style="list-style-type: none"> Produce detailed reports on the outcomes of activities directed at improving stand health and nutrition
Oral communication	<ul style="list-style-type: none"> Ask open and closed questions and use active listening techniques to gather information related to the monitoring of stand health and nutrition
Numeracy	<ul style="list-style-type: none"> Interpret complex numerical data relating to stand health and nutrition

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPSIL4005 Plan for and coordinate a stand health and nutrition program	FWPFGM5211 Coordinate stand nutrition	Redesigned unit that includes content from FWPFGM5211 Coordinate stand nutrition, and FWPFGM4202 Manage stand health	Not equivalent
FWPSIL4005 Plan for and coordinate a stand health and nutrition program	FWPFGM4202 Manage stand health	Redesigned unit that includes content from FWPFGM5211 Coordinate stand nutrition, and FWPFGM4202 Manage stand health	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSIL4005 Plan for and coordinate a stand health and nutrition program

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has planned, coordinated the implementation and reviewed and reported on the outcomes of one stand health and nutrition program.

In undertaking this activity, the individual has:

- developed and implemented a stand health and nutrition program that includes:
 - relevant policies and procedures
 - budgets
 - timelines
 - resources (people, materials, equipment)
 - activities and tasks
 - performance indicators
- followed workplace policies and procedures for managing the health and nutrition of one stand of trees
- monitored the implementation of the stand health and nutrition program
- identified problems with stand health and nutrition, including nutritional deficiencies in target species, and recommended suitable remedial strategies
- ensured compliance with workplace procedures and safety and environment protection requirements
- reviewed and reported on the outcomes of the stand health and nutrition program.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- stand health and nutrition requirements, indicators and treatment of the target species, including:
 - stress problems

- pests and diseases, including insects, fungal, bacterial, viral, birds and animals
- structural
- storm damage
- root damage
- gassing
- compaction
- incineration
- nutritional deficiencies in target species, and remedial strategies
- chemical
- competition
- poor draining
- vandalism
- salt
- drought
- procedures for identifying and evaluating structural defects in trees
- methods to identify pests, diseases and physiological damage to trees
- methods to manage tree pests and diseases
- methods of collecting and storing specimens for identification
- methods to improve stand health, including:
 - application of fertilisers
 - application of pesticides and herbicides
 - pruning techniques
 - competition management techniques
 - browsing control techniques
- environmental protection requirements for the site or setting
- relevant approvals, including where:
 - the use of chemicals or biological agents is intended
 - browsing control techniques may impact on neighbouring properties
 - consideration of environmental sustainability issues apply
- workplace health and safety policies and procedures
- budgets and planning tools.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - a forest area to implement stand health and nutrition program

- specifications:
 - workplace safety and environmental policies and procedures applicable to forestry operations
 - workplace policies and procedures relevant to planning and coordinating stand health and nutrition.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSIL4006 Plan for and coordinate a pests and diseases assessment

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to assess the presence and level of pests and diseases within a forest area. The unit includes the assessment of animal populations, weeds, diseases and pests.

The unit applies to individuals involved in planning and supervising a pests and diseases assessment as part of forestry operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Silviculture (SIL)

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Prepare for pests and diseases assessment	1.1 Determine frequency of assessment activities and calculate size of sample area, taking into account inventory programs, budgets and

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	<p>workplace guidelines</p> <p>1.2 Apply physical, biological and environmental indicators to determine the presence of pests and diseases in a forested area</p> <p>1.3 Select methods of pest and disease measurement according to the forest management plan and relevant regulatory requirements</p> <p>1.4 Identify and adhere to site environmental protection measures and biosecurity strategies</p> <p>1.5 Select method of assessment with regard to the forest type, pest and disease type, environment protection requirements and workplace procedures</p> <p>1.6 Coordinate people, materials and equipment for the pests and diseases assessment</p> <p>1.7 Organise schedule for the pests and diseases assessment in conjunction with other relevant forest operations personnel</p> <p>1.8 Obtain permits or licences required for the assessment</p>
2. Coordinate implementation of pests and diseases assessment	<p>2.1 Direct personnel undertaking the assessment</p> <p>2.2 Coordinate the collection of data on pests and diseases</p> <p>2.3 Ensure personnel engaged in assessment activities comply with environmental, legislative and workplace requirements</p> <p>2.4 Communicate regularly with contractors and operational staff to ensure smooth operation and progress</p> <p>2.5 Monitor and review assessment activities and consult operational staff and contractors for potential improvements</p> <p>2.6 Collate and interpret assessment data</p>
3. Report on assessment outcomes	<p>3.1 Record and report on assessment outcomes according to workplace procedures</p> <p>3.2 Review assessment method for potential improvements</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret familiar and detailed organisational policies and procedures and complex documents such as forest management plans
Writing	<ul style="list-style-type: none"> Produce detailed reports on the outcomes of the pests and diseases assessment
Oral communication	<ul style="list-style-type: none"> Ask open and closed questions and use active listening techniques to gather information related to the presence and level of pests and diseases within a forest area
Numeracy	<ul style="list-style-type: none"> Interpret complex numerical data relating to the presence and level of pests and diseases within a forest area

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPSIL4006 Plan for and coordinate a pests and diseases assessment	FWPFGM4204 Conduct a pests and diseases assessment	<p>New title</p> <p>Revised Elements and Performance Criteria</p> <p>Revised Performance Evidence and Knowledge Evidence</p> <p>Revised Assessment Conditions in line with requirements of Standards for Training Packages</p>	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSIL4006 Plan for and coordinate a pests and diseases assessment

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has planned, coordinated the implementation and reported on the outcomes of one pest or disease assessment in one of the following types of forested areas:

- native forest
- plantation.

In undertaking this activity, the individual has:

- followed workplace policies and procedures and biosecurity strategies relevant to conducting a pest or disease assessment
- identified the physical, biological and environmental indicators of the presence of pests or diseases in a forested area
- accurately and safely determined the level and presence of pests or diseases in a sample area
- coordinated people, resources and equipment for a pest or disease assessment
- communicated with contractors and operational staff to facilitate the implementation of the pest or disease assessment
- accurately interpreted data collected through the pest or disease assessment
- identified ways of improving future pest or disease assessments
- recorded and reported on the outcomes of the pest or disease assessment.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- applicable commonwealth, state or territory legislation, regulations, standards, codes of practice and established safe practices for conducting pests and diseases assessment

- environmental protection requirements and biosecurity strategies relevant to conducting a pests and diseases assessment
- workplace policies and procedures for conducting pests and diseases assessment
- types of pests and diseases, including:
 - fauna, including avian fauna, rodents, feral cats, wild dogs and insects
 - flora, including weeds and invasive plants and diseases that affect plants
- methods and techniques to assess animal populations, diseases, pests and weeds
- methods for measuring and collecting data on pests and diseases
- safe use and application of tools and equipment used to conduct a pests and diseases assessment
- procedures to obtain a permit or licence to conduct a pests and diseases assessment.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - forest site suitable to conduct a pests and diseases assessment
- specifications:
 - workplace safety and environmental policies and procedures applicable to forestry operations
 - workplace policies and procedures relevant to pests and diseases assessment.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSIL4007 Plan for and coordinate a regeneration rate assessment

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the outcomes required to plan and coordinate the implementation and monitoring of a regeneration assessment within a forestry area.

The unit applies to individuals involved in planning and supervising a regeneration rate assessment as part of forestry operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Silviculture (SIL)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for regeneration assessment	1.1 Identify regeneration activities undertaken at site to be assessed 1.2 Determine frequency of assessment activities and calculate size of sample area, taking into account inventory programs, budgets and

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>workplace guidelines</p> <p>1.3 Select regeneration measurement method according to the forest type, environment protection requirements, hazards and risk analysis outcomes, and workplace procedures</p> <p>1.4 Coordinate personnel, materials and equipment required for the assessment</p> <p>1.5 Develop a schedule for the assessment in conjunction with other relevant forest operations personnel</p> <p>1.6 Obtain necessary permits or licences required for the assessment</p>
2. Coordinate implementation and monitoring of regeneration assessment	<p>2.1 Direct personnel undertaking the regeneration assessment</p> <p>2.2 Coordinate the collection of data on regeneration rates</p> <p>2.3 Ensure personnel engaged in assessment and monitoring activities comply with environmental, legislative and workplace requirements</p> <p>2.4 Communicate with operational staff and contractors during the assessment and monitoring activities</p> <p>2.5 Monitor and review assessment and monitoring activities, and consult operational staff and contractors for potential improvements</p> <p>2.6 Collate and interpret regeneration data</p>
3. Report on assessment outcomes	<p>3.1 Record and report on assessment outcomes according to workplace procedures</p> <p>3.2 Review assessment method for potential improvements</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret familiar and detailed organisational policies and procedures and complex documents such as forest management plans
Writing	<ul style="list-style-type: none"> Produce detailed reports on the outcomes of the assessment of new plant stocks within forestry areas

Skill	Description
Oral communication	<ul style="list-style-type: none"> Ask open and closed questions and use active listening techniques to gather information related to the monitoring of regenerated areas
Numeracy	<ul style="list-style-type: none"> Interpret complex numerical data relating to germination, survival and regeneration rates

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPSIL4007 Plan for and coordinate a regeneration rate assessment	FWPFGM4205 Monitor regeneration rates	<p>New title</p> <p>Revised Elements and Performance Criteria</p> <p>Revised Performance Evidence and Knowledge Evidence</p> <p>Revised Assessment Conditions in line with requirements of Standards for Training Packages</p>	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSIL4007 Plan for and coordinate a regeneration rate assessment

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has planned, coordinated the implementation and monitoring and reported on the outcomes of one regeneration rate assessment within a forestry area.

In undertaking this activity, the individual has:

- followed workplace policies and procedures relevant to scheduling and implementing the regeneration rate assessment
- coordinated people, materials and equipment required for the regeneration assessment
- coordinated regeneration monitoring in a sample area
- accurately interpreted regeneration data
- ensured personnel and contractors engaged in implementation and monitoring activities complied with environmental, legislative and workplace requirements
- identified ways of improving future regeneration rate assessments
- recorded and reported the outcomes of the regeneration rate assessment.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- workplace and site standards, requirements, policies and procedures for monitoring regeneration rates
- risks and hazards in a forest setting
- environmental and legislative requirements associated with regeneration rate assessments
- types and rates of regeneration of the following:
 - seeding
 - seedlings
 - coppice

- standard sprouts
- assessment techniques for regeneration rates, including:
 - monitoring germination and survival rates
 - observing the effects of browsing, the distribution of new growth in square metres and regeneration rates
 - calculating basal areas
- types of tools and equipment used for measuring regeneration in a forest and procedures for their safe use and maintenance.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - a forest area that is undergoing regeneration
- specifications:
 - workplace safety and environmental policies and procedures applicable to forestry operations
 - workplace policies and procedures relevant to monitoring regeneration activities.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSIL4008 Plan for and coordinate a forest site assessment

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to plan, coordinate and report on the outcomes of a forest site assessment.

The unit applies to individuals who are involved in planning and supervising a forest site assessment as part of forestry operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Silviculture (SIL)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan forest site assessment	1.1 Determine location and size of sample area for assessment, taking into account inventory programs, budgets and workplace guidelines 1.2 Select method to assess forest site, with reference to location, topography and forest management plan

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	1.3 Review environmental protection measures that apply to site 1.4 Develop a schedule for the assessment in conjunction with relevant forest operations personnel 1.5 Coordinate people, materials and equipment for the assessment 1.6 Obtain permits or licences required for the assessment 1.7 Document plan for forest site assessment including risk and hazard analysis
2. Coordinate forest site assessment	2.1 Direct personnel undertaking forest site assessment 2.2 Coordinate data collection according to workplace procedures 2.3 Ensure personnel engaged in assessment comply with quality, safety, environmental protection and workplace procedures 2.4 Communicate regularly with operational staff and contractors to ensure smooth operation and progress of assessment activities 2.5 Collate and interpret data on forest site
3. Report on forest site assessment outcomes	3.1 Record and report on assessment outcomes according to workplace procedures 3.2 Review assessment method for potential improvements

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret familiar and detailed organisational policies and procedures and complex documents
Writing	<ul style="list-style-type: none"> Produce detailed reports on the outcomes of forest site assessments
Oral communication	<ul style="list-style-type: none"> Ask open and closed questions and use active listening techniques to gather information related to forest site assessments
Numeracy	<ul style="list-style-type: none"> Interpret complex numerical data relating to forest site assessments

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPSIL4008 Plan for and coordinate a forest site assessment	FWPFGM4207 Conduct a forest site assessment	New title Revised Application Statement Updated Elements and Performance Criteria Revised Performance Evidence and Knowledge Evidence Revised Assessment Conditions in line with requirements of Standards for Training Packages	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSIL4008 Plan for and coordinate a forest site assessment

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has planned, coordinated and reported on the outcomes of one forest site assessment.

In undertaking this activity, the individual has:

- followed workplace policies and procedures relevant to assessing a forest site
- calculated and analysed data on the soils, terrain, slope, rainfall and environmental specifications of a forest site in a sample area
- coordinated people, resources and equipment for the efficient assessment of a forest site
- ensured compliance with safety, quality, environmental protection and workplace procedures by personnel engaged in the forest site assessment
- identified and reported ways of improving forest site assessment process
- recorded and reported on the outcomes of the forest site assessment.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- workplace policies and procedures for conducting a forest site assessment
- risks and hazards associated with assessing a forest site
- environmental and legislative requirements related to forest site assessment
- site factors and how they affect different species
- forest site characteristics, including:
 - soil
 - aspect
 - terrain
 - slope

- rainfall
- temperature
- water courses
- wind speed and direction
- vegetation
- ground hazards and obstacles
- environmental specifications
- techniques and methods for assessing a forest site
- types of tools and equipment for conducting a forest site assessment, and procedures for their safe use and maintenance.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest or wood products work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - a forest area for site assessment
 - plant, tools and equipment used in a forest site assessment
- specifications:
 - workplace safety and environmental policies and procedures applicable to forestry operations
 - workplace policies and procedures relevant to conducting a forest site assessment.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSIL4009 Plan for and coordinate tending operations in a native forest or plantation

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to plan for and implement tending operations within a forested area, which may be a managed native forest or plantation.

The unit applies to individuals responsible for coordinating the implementation of tending operations in either managed native forests or plantations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Silviculture (SIL)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan tending operation	1.1 Review plan for forested area and confirm objectives of tending

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>operations</p> <p>1.2 Identify environmental protection requirements for the forested area</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with tending operations</p> <p>1.4 Review workplace health and safety procedures, including the use of personal protective equipment, chemical safety and safe use of tools and equipment</p> <p>1.5 Review tending and associated operational requirements for the forested area</p> <p>1.6 Consult with stakeholders about tending requirements for the forested area</p> <p>1.7 Document a tending plan, including specifications, quality, hazard analysis and performance targets and obtain approvals for implementation according to workplace procedures</p>
2. Implement tending plan	<p>2.1 Obtain resources required to implement the tending plan</p> <p>2.2 Implement emergency treatments and hazard notification procedures</p> <p>2.3 Organise site schedule with technical operators</p> <p>2.4 Operationalise tending plan with reference to budget, schedule, performance indicators and objectives</p>
3. Monitor tending operations	<p>3.1 Obtain data about performance at key milestones or established review periods</p> <p>3.2 Check that environmental, workplace health and safety and legislative compliance requirements are met and that documentation is accurate and up-to-date</p> <p>3.3 Maintain communication with operations supervisor throughout implementation of the plan</p> <p>3.4 Amend tending operation plan to ensure that specifications, quality and performance targets are met</p>
4. Review tending operation	<p>4.1 Review outcomes against established objectives</p> <p>4.2 Determine operational improvements for the future and formulate recommendations</p> <p>4.3 Record and report on tending operations to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Extract information from industry guides and standard references
Writing	<ul style="list-style-type: none"> Complete workplace forms Annotate site plans
Oral communication	<ul style="list-style-type: none"> Ask open and closed questions and use active listening techniques to clarify contents of work orders Use interactive verbal and non-verbal communication to direct the activities of work crews
Numeracy	<ul style="list-style-type: none"> Collect, collate and interpret basic statistics on quality and performance indicators related to tending operations

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPSIL4009 Plan for and coordinate tending operations in a native forest or plantation	FWPFGM5210 Manage tending operations in a native forest	Redesigned unit that includes content from FWPFGM5210 Manage tending operations in a native forest, and FWPFGM5213 Coordinate plantation tending operations	Not equivalent
FWPSIL4009 Plan for and coordinate tending operations in a native forest or plantation	FWPFGM5213 Coordinate plantation tending operations	Redesigned unit that includes content from FWPFGM5210 Manage tending operations in a native forest, and FWPFGM5213 Coordinate plantation tending operations	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSIL4009 Plan for and coordinate tending operations in a native forest or plantation

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has planned, coordinated monitored and reported on one tending operation in one of the following types of forested area:

- native forest
- plantation.

In undertaking this activity, the individual has:

- reviewed forest plan and objectives of tending operations
- confirmed environmental protection and workplace health and safety requirements for the tending operation
- consulted with stakeholders and prepared a tending plan that addresses quality and performance targets
- operationalised, monitored and reported on the tending operation according to workplace procedures.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- environmental protection requirements, including:
 - soil disturbance measures
 - retention tree damage
 - fungal hygiene measures
 - identification of habitat trees
 - chemical handling and application procedures
- workplace policies and procedures for managing tending operations that relate to:

- health and safety
- organisational, legislative and environmental regulations, procedures, practices and precautions
- adherence to site environmental imperatives
- specifications
- quality
- performance targets
- tending operations, including the following aspects:
 - the health of the stand
 - productivity and long term sustainability
 - end product mix requirements
 - the management of notifiable weeds
- impact of tending operations on forest productivity
- authorisations relevant to tending operations:
 - permits
 - approvals
 - licensing
- biology of relevant forest health problems
- tree growth and development
- weed species and herbicide interactions
- hydrology and hydrological principles
- plant identification and plant classification
- ecology and ecological interactions
- soil types and structure
- hazards related to managing tending operations:
 - use of chemicals
 - off-site effects
 - tools and equipment
 - dangers to the public
- procedures for recording and reporting workplace information.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - a forested area for tending operation
 - computing equipment for documenting plans and reports on tending operations

- specifications:
 - maps, plans and data required for preparation of tending plan
 - workplace safety and environmental policies and procedures applicable to tending operations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPTMM2204 Machine material

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to set up and operate basic static machines used for sawing, planing, sanding and drilling. This includes identifying requirements in a work order, following workplace health and safety procedures, planning machining processes, setting up and operating static machines and performing routine machine maintenance.

The unit applies to individuals who operate basic static machines in a timber processing or manufacturing facility.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Timber Manufactured Products

Timber Merchandising

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for machining	1.1 Review work order and check with appropriate personnel 1.2 Review workplace health and safety procedures, including the use of personal protective equipment, equipment lock-out and safe manual

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>handling techniques</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with machining material</p> <p>1.4 Identify workplace environmental protection procedures for minimising and disposing of waste material, cleaning tools and equipment, and maximising energy efficiency</p> <p>1.5 Obtain type and quantity of material to be machined from storage location</p> <p>1.6 Select appropriate equipment, and check for operational effectiveness according to manufacturer recommendations</p> <p>1.7 Plan material machining process according to work order</p>
2. Set up machines	<p>2.1 Check safety equipment, including emergency stops, gauges, guards and controls</p> <p>2.2 Complete machine settings and adjustments according to job requirements and manufacturer instructions</p> <p>2.3 Complete trial runs to check machine operation and accuracy and quality of finished work</p> <p>2.4 Accept or reject trialled material, and reuse, recycle or dispose of according to workplace and environmental protection practices</p> <p>2.5 Adjust machine setting as necessary</p>
3. Operate machines	<p>3.1 Complete equipment pre-start-up checks according to workplace procedures</p> <p>3.2 Operate machine according to manufacturer instructions, safe operating procedures and environmental protection practices</p> <p>3.3 Monitor machine operation to ensure product quality and output</p> <p>3.4 Repair sub-quality items to minimise waste, and recycle or discard others according to workplace and environmental protection practices</p> <p>3.5 Stack material safely in designated location according to work order requirements</p>
4. Complete operator maintenance	<p>4.1 Follow workplace safety procedures to lock out equipment</p> <p>4.2 Keep machine area clear of dust, off-cuts and debris according to safety and site requirements</p> <p>4.3 Inspect saw blade, knife, drill or sanding belt condition according to workplace and manufacturer guidelines</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>4.4 Inform appropriate personnel of need to replace saw blade, knife, drill or sanding belt according to workplace and manufacturer procedures</p> <p>4.5 Record and report machining outcomes, equipment faults and maintenance requirements to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interprets key requirements in workplace health and safety and environmental procedures for clearing sawn waste from work area
Writing	<ul style="list-style-type: none"> Completes basic written production reports and tally sheets
Oral communication	<ul style="list-style-type: none"> Responds to oral questions on routine matters related to output quality
Numeracy	<ul style="list-style-type: none"> Uses basic arithmetic skills to identify quantities of required material within work plans, and counts raw materials
Navigate the world of work	<ul style="list-style-type: none"> Follows workplace policies and procedures relevant to work role
Interact with others	<ul style="list-style-type: none"> Participates in conversations to inform maintenance staff about equipment faults
Get the work done	<ul style="list-style-type: none"> Identifies and responds to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPTMM2204 Machine material	FWPTMM2202 Machine material	Reworded application; revised performance criteria and evidence for mapping; updated	Equivalent unit

		foundation skills; minor edits/updates to knowledge evidence	
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Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPTMM2204 Machine material

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has, on at least one occasion, safely set up and operated basic static machines for each of the following operations: sawing, planing, sanding and drilling; and has:

- followed work order and relevant workplace health and safety and environmental protection procedures
- set up machine
- performed sawing, planing, drilling and sanding operations on timbers and boards from one or more of the following in line with an individual work order:
 - native timber species
 - imported timber species
 - dressed timber
 - in-the-rough timber
 - stress and non-stress graded timber
 - preservative treated timber
 - medium density fibreboard
 - laminated veneer
 - chipboard
 - fibreboard and other manufactured board products
 - coated and/or treated timber products
 - beams or laminated beams
- completed operator maintenance on at least one occasion for each of the following types of machines:
 - sawing machine
 - planing machine
 - drilling machine
 - sanding machine.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- environmental protection practices for forest products factory settings:
 - reducing water and energy use
 - cleaning plant, tools and equipment
 - disposing of, recycling and reusing timber and other waste
- storage layout and categories for:
 - raw materials
 - stacking finished materials
- machining characteristics of timber and timber defects
- cutting patterns and sequences
- industry standard cross-sections and lengths
- types, purpose, features, set-up, operation and non-specialist repair and maintenance of basic static machines:
 - measuring equipment
 - docking saws
 - bench saws
 - panel saws
 - band saws
 - panel planers
 - surface planers
 - drill presses
 - boring machines
 - edge sanders
 - profile sanders
 - panel sanders
 - stroke sanders
- reasons, methods and timing of inspection of condition of saw blade, knife, drill and sanding belt
- workplace procedures specific to machining activities:
 - workplace health and safety, with particular emphasis on equipment lock-out
 - use and maintenance of equipment
 - communication reporting lines
 - recording and reporting cutting process and equipment faults.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:

- skills must be demonstrated in a forest and forest products factory setting or an environment that accurately reflects workplace conditions
- resources, equipment and materials:
 - machining tools: docking saws, bench saws, panel saws, band saws, panel planers, surface planers, drill presses, boring machines, edge sanders, profile sanders, panel sanders, stroke sanders
 - measuring equipment
 - maintenance tools and equipment
 - consumable components for replacement during operator maintenance
 - personal protective equipment suitable for machining activities
 - commercially available timbers and boards
 - template reports for recording processing and equipment faults
- specifications:
 - manufacturer instructions for use and maintenance of equipment
 - access to work order for machining activities, with specific instructions for the machining and storage of timber and timber products
 - access to written workplace procedures for machining activities.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPTMM2205 Cut material to length and angles

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to prepare and cut material to length and angle with a power driven saw. It includes non-specialist saw maintenance on completion of operation.

The unit applies to machine operators, timber product workers and manufacturing assistants who undertake specified activities under the direction of more experienced workers.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Timber Manufactured Products (TMM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for cutting	1.1 Determine information for cutting materials to length and angles from work order and confirm with appropriate person 1.2 Determine type and quantity of material to be cut 1.3 Plan material cutting patterns and saw set-up sequences according to work order and cutting list 1.4 Confirm safety requirements for cutting materials according to

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	workplace safety procedures 1.5 Select, fit and use appropriate personal protective equipment (PPE) 1.6 Select appropriate equipment and carry out a pre-start check according to manufacturer instructions
2. Cut material to length and angle	2.1 Mark up material and set stops in preparation for cutting 2.2 Select and set up appropriate saw for cutting materials 2.3 Operate machinery according to manufacturer instructions and workplace safety requirements 2.4 Produce required quantity of material according to cutting sequence and patterns 2.5 Check cuts for length and angle within allowable tolerance 2.6 Dispose of incorrect cuts, off-cuts and material with defects according to workplace safety and environmental requirements 2.7 Stack material safely according to work order in designated location 2.8 Check product quality and quantity and record against work order 2.9 Report processing faults to appropriate person
3. Complete operator maintenance	3.1 Follow workplace safety procedures to lock-out equipment 3.2 Check saw blades for bluntness or damage 3.3 Remove and replace saw blades according to manufacturer instructions 3.4 Dispose of used blades according to workplace safety and environmental requirements 3.5 Clean and maintain saw and equipment, and check for and report faults or damage 3.6 Clean work area and dispose of sawdust, off-cuts and debris according to workplace safety and environmental requirements 3.7 Report equipment faults or damage to appropriate person

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Writing	<ul style="list-style-type: none"> Enter routine production information into report documentation/forms, legibly and using industry terminology
Oral communication	<ul style="list-style-type: none"> Ask questions and actively listen to clarify contents of work orders Make accurate verbal reports on processing and equipment faults

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPTMM2205 Cut material to length and angles	FWPTMM2201 Cut material to length and angles	Application clarified Performance Criteria, Foundation Skills and Assessment Requirements updated	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPTMM2205 Cut material to length and angles

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has:

- cut a minimum of 25 different lengths of timber material, which include:
 - different timber grades, species and sectional sizes
 - various lengths and sectional sizes of hardwood and softwood engineered wood products (EWP)
 - at least five varying angles
- cut a minimum of five different timber board products into lengths

In performing this work, there must be evidence that the individual has:

- used and maintained a semi-automated saw
- stacked cut timber products into specified stacks.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- workplace policies and procedures relating to cutting activities
- workplace and environmental requirements for safe disposal of waste
- characteristics, properties and limitations and defects of timber products:
 - hardwood
 - softwood
 - EWP
- processes and techniques of:
 - cutting patterns and sequences for single and compound angles
 - assessing saw blade condition
 - using and maintaining machinery and equipment

- stacking finished materials
- recording and reporting cutting process incidents and equipment faults
- cleaning of plant, tools and equipment
- disposing of, recycling and reusing timber and other waste
- industry standard cross-sections and lengths
- functional and operational features of tools, equipment and machinery:
 - semi-automated saws
 - bench saws
 - radial arm saws
 - saws with adjustable angle
 - saws with automatic feed
 - saws with one blade
 - table saws
- workplace safety requirements relevant to cutting materials:
 - personal protective equipment (PPE)
 - electrical hazards – use of residual current devices (RCD)
 - hazardous manual tasks
 - equipment lock-out
 - exposure to dust
 - exposure to excessive noise.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber manufacturing workplace or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - appropriate machinery and equipment to cut timber products to length and angles
 - materials to cut to length and angles
- specifications:
 - access to work orders, safe work practices and environmental requirements to cut materials to length
 - access to policies and procedures and manufacturer instructions applicable to cutting materials to length

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPTMM3211 Manufacture using joinery machines

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to operate mortise and tenon machines, borers and routers to cut and drill machined joints in timber. This includes identifying work requirements, setting up and operating joinery machines, and completing routine equipment maintenance.

The unit applies to individuals who operate joinery machines in a timber processing or manufacturing facility.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Timber Manufactured Products

Timber Merchandising

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for profiling	<p>1.1 Review work order to determine job requirements and, where required, seek clarification from appropriate personnel</p> <p>1.2 Review workplace health and safety procedures, including the use of personal protective equipment, equipment lock-out and safe manual</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>handling techniques</p> <p>1.3 Identify, assess and take actions to mitigate risks and hazards associated with using joinery machines</p> <p>1.4 Identify workplace environmental protection procedures for minimising and disposing of waste material, cleaning tools and equipment, and maximising energy efficiency</p> <p>1.5 Obtain type and quantity of material to be machined from storage location</p> <p>1.6 Select appropriate equipment, including cutting blades or drills, and check for operational effectiveness according to manufacturer recommendations</p> <p>1.7 Plan manufacturing sequence</p>
2. Set up profile	<p>2.1 Complete equipment pre-start-up checks according to workplace and manufacturer procedures</p> <p>2.2 Select machine guides and attach to machinery</p> <p>2.3 Install cutting blades or drills into selected machinery</p> <p>2.4 Set depth and width of cut or hole according to required process and to minimise waste</p> <p>2.5 Position material stack in close proximity to maximise ease of machine feeding</p> <p>2.6 Test equipment set-up for depth and width through trial run on timber, and adjust as required</p>
3. Operate machine	<p>3.1 Feed material into machine at feed rate according to workplace requirements</p> <p>3.2 Use equipment and machinery according to workplace procedures, manufacturer instructions and environmental protection practices</p> <p>3.3 Follow, maintain and adjust manufacturing sequence to produce required quantity and maximise feed rate</p> <p>3.4 Check manufacturing process regularly and adjust to maintain desired depth and width of cut or hole</p> <p>3.5 Reject material with defects, and reuse, recycle or dispose of according to environmental protection practices</p> <p>3.6 Stack material safely in designated location according to work order requirements</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	3.7 Report equipment faults to appropriate personnel 3.8 Complete and maintain accurate records and reports of machining outcomes according to workplace procedures
4. Complete operator maintenance	4.1 Follow workplace safety procedures to lock out equipment 4.2 Check cutting blades and drills for bluntness or damage 4.3 Remove and replace cutting blades and drills according to manufacturer recommendations 4.4 Dispose of used blades and drills according to workplace procedures and environmental protection practices 4.5 Keep machine area clear of dust and debris according to workplace requirements

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interprets key requirements in workplace health and safety and environmental procedures for clearing sawn waste from work area
Writing	<ul style="list-style-type: none"> Completes basic written production reports and tally sheets
Oral communication	<ul style="list-style-type: none"> Responds to oral questions on routine matters related to output quality
Numeracy	<ul style="list-style-type: none"> Uses basic arithmetic skills to determine quantity and dimensions of joinery materials Uses standard units of measure to determine dimensions of finished material Interprets graphical information in charts to identify the feed rate to optimise quality and quantity of production output
Navigate the world of work	<ul style="list-style-type: none"> Follows workplace policies and procedures relevant to work role
Interact with others	<ul style="list-style-type: none"> Participates in conversations to inform maintenance staff about equipment faults

Skill	Description
Get the work done	<ul style="list-style-type: none"> <li data-bbox="537 306 1134 338">Identifies and responds to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPTMM3211 Manufacture using joinery machines	FWPTMM3202 Manufacture using joinery machines	Reworded application; added performance criteria relating to workplace health and safety; revised performance evidence for mapping; updated foundation skills	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPTMM3211 Manufacture using joinery machines

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has, on at least one occasion, safely set up, calibrated, operated and maintained one or more of the following joinery machines:

- mortise and tenon
- borers
- routers.

In doing the above job, the individual has:

- followed work order and relevant workplace health and safety and environmental protection procedures
- set up profile
- operated machine according to workplace procedures and work order requirements
- safely cleared sawn or machined materials and waste from the joinery machine
- checked, sorted and stacked the finished product
- disposed of waste material
- completed production reports.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- features and uses of these types of machined joints:
 - grooves
 - rebates
 - bevels
 - trenches
 - mortises

- tenons
- holes
- cutting and drilling techniques and processes, including feed rates and finish
- types, purpose, features, operation and basic non-specialist repair and maintenance of cutting and drilling tools and equipment:
 - measuring equipment
 - saws
 - routing machines
 - single or double end tenoners
 - mortisers
 - borers
 - multi-borers
 - drill presses
 - mortising chisels
 - tenoning saws or chains
- environmental protection practices for forest products factory settings:
 - reducing water and energy use
 - cleaning plant, tools and equipment
 - disposing of, recycling and reusing timber and other waste
- workplace procedures specific to production activities using joinery machines:
 - workplace health and safety, with particular emphasis on personal protective equipment (PPE) and equipment lock-out
 - use and maintenance of equipment
 - communication reporting lines
 - recording and reporting cutting process and equipment faults.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest and forest products factory setting or an environment that accurately reflects workplace conditions
- resources, equipment and materials:
 - cutting and drilling tools and equipment: measuring equipment, saws, routing machines, single or double end tenoners, mortisers, borers, multi-borers, drill presses
 - cutting blades and drills: square and angular router cutting bits, drills in varying sizes, mortising chisels, tenoning saws and chains, trenching heads
 - maintenance tools and equipment for cutting and drilling tools
 - consumable components: cutting blades and drills
 - PPE suitable for cutting and drilling activities
 - a diverse, comprehensive and commercial product range of timber

- manufacturer instructions for use and maintenance of equipment
- template reports for recording processing and equipment faults
- specifications:
 - access to work order for production activities, with specific instructions for the cutting, drilling and storage of timber and timber products
 - access to written workplace procedures for production activities using joinery machines.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPTMM3212 Estimate and cost job

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to estimate resource requirements, cost and price for the manufacture of a custom made timber product. This includes determining customer requirements, sourcing information, estimating the cost and price of the product and preparing and presenting the quotation.

The unit applies to individuals who calculate the cost and provide customer quotations for custom made timber products.

No licensing, legislative, regulatory, or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Timber Manufactured Products

Timber Merchandising

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Source information for quotations	1.1 Identify, negotiate and confirm customer requirements 1.2 Assess product information for suitability to customer requirements 1.3 Determine delivery point, delivery date and time and method of

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	transportation according to workplace procedures 1.4 Source, select and interpret product costing information 1.5 Record all details according to workplace procedures
2. Estimate materials, time and labour	2.1 Estimate types and quantities of materials required for product manufacture 2.2 Estimate labour and other resource requirements to manufacture and/or install product and other required services 2.3 Document estimate for manufacture, installation and other service provision, and check against customer requirements
3. Calculate cost and price	3.1 Calculate costs for total materials, labour and overheads according to workplace procedures 3.2 Calculate total manufacture and/or installation costs 3.3 Apply mark-up according to workplace procedures, and determine total price to customer 3.4 Document details of calculations and price to customer according to workplace procedures and consumer protection legislation
4. Prepare and present quotation	4.1 Check price and calculations against product and service components and customer requirements 4.2 Prepare and provide quotation to customer according to workplace procedures and consumer protection legislation 4.3 Inform customer of their rights and obligations according to workplace procedures and consumer protection legislation 4.4 Complete and maintain accurate records of quotations according to workplace procedures and consumer protection legislation

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description

Skill	Description
Reading	<ul style="list-style-type: none"> Interprets the content of sometimes unfamiliar and detailed product information documents, including: in-house price lists, product description sheets or manuals, supplier price lists, product description sheets or manuals
Writing	<ul style="list-style-type: none"> Develops, documents and presents complex quotations in a prescribed time period according to workplace procedures and formats
Oral communication	<ul style="list-style-type: none"> Responds to oral questions on routine and non-routine matters related to customer requirements, costing of products and price of product to customer
Numeracy	<ul style="list-style-type: none"> Identifies routine product and costing information, and calculates routine customer supply costs Calculates mark-up rates and discounts for finished products Prepares accurate quotations indicating number of products to be delivered, timeframe for delivery and total costs to customer
Navigate the world of work	<ul style="list-style-type: none"> Follows workplace policies and procedures relevant to work role
Interact with others	<ul style="list-style-type: none"> Participates in conversations to inform customers about price of products
Get the work done	<ul style="list-style-type: none"> Identifies and responds to routine customer problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPTMM3212 Estimate and cost job	FWPTMM3203 Estimate and cost job	Updated industry terminology, workplace health and safety requirements and foundation skills; clarified intent of unit and assessment requirements	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPTMM3212 Estimate and cost job

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has:

- prepared and presented quotations for a custom made timber product chosen from the following list:
 - stairs
 - doors
 - windows
 - frames
 - beams
 - roof trusses
 - floor systems
 - wall frames
- calculated the cost of the following components of the custom made timber product:
 - labour
 - materials
 - specialist skills and advice
 - delivery and transportation
 - installation
 - contingencies
- calculated the price of the custom made product including:
 - mark-up
 - discount
 - overheads.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- procedures for determining and negotiating customer requirements in order to prepare a quotation
- procedures for planning and estimating the costs of a custom made timber product, including:
 - methods of determining labour rates and job time length
 - methods of determining job processes and material requirements
 - methods of planning for contingencies
- cost minimisation and waste avoidance procedures and practices
- workplace quotation flow chart
- methods for determining cost and price of custom made timber products
- components of cost of custom made timber products
- primary components of consumer protection laws that relate to the provision of quotations and workplace responsibility for:
 - nominating and charging cancellation fees
 - providing information on potential price increases
 - providing refunds
 - supplying products as described or substituting suitable products when unable
 - guarantees
- industry and workplace practices in relation to:
 - quotation systems
 - sources of information on costs for materials and labour to manufacture and install
 - sources of information on overheads and how overheads are applied to individual quotes
 - delivery types and costs
 - types of fees charged and sources of fee amounts
 - mark-up rates and procedures
 - formats for and inclusions of quotations presented to customers
 - procedures for documenting calculations, communicating quotations to customers and maintaining records.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest and forest products factory setting or an environment that accurately reflects workplace conditions
- resources, equipment and materials:
 - computers, keyboards and printers

- industry current software programs used to prepare quotations
- customer briefs on which to quote, including product requirements and special requests
- product and other workplace information, either electronic or hard copy: in-house price lists, product description sheets or manuals, cost schedules for materials and labour to manufacture and install, schedule of overhead costs, delivery types and costs and schedule of fees
- workplace template for quotations
- specifications:
 - access to written workplace procedures for preparing and presenting quotations
 - current consumer protection law in relation to preparation and presentation of quotations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPTMM3213 Read and interpret timber truss or wall frame fabrication plans

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to read and interpret timber floor truss or timber wall frame or timber roof truss fabrication plans. It includes identifying assembly components and fabrication details.

The unit applies to timber manufactured products technicians, timber frame and truss fabricators and machine operators who take responsibility for organising and completing tasks assigned to them without close supervision.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Timber Manufactured Products (TMM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Read fabrication plans	1.1 Identify drawing views and specifications in timber truss or wall frame fabrication plans 1.2 Identify timber and hardware component details 1.3 Identify fabricating requirements and any restrictions or

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	limitations 1.4 Clarify design and job requirements from fabrication plans
2. Interpret and confirm fabrication plan information	2.1 Confirm component cutting list and layout and joint details from fabrication plan 2.2 Identify sequencing for assembly and fabrication work 2.3 Establish layouts, spacing and sizing of individual structural members 2.4 Determine quantities of and position of bracing and ancillaries for trusses or frames 2.5 Seek additional information and data as required, and confirm details with appropriate person

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Oral communication	<ul style="list-style-type: none"> Use clear and concise language and industry and workplace specific terminology when discussing fabrication plan requirements Ask questions and actively listen to confirm details of fabrication plan information

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPTMM3213 Read and interpret timber truss or wall frame fabrication plans	FWPTMM2203 Read and interpret timber truss, floor and/or frame fabrication	Re-titled Indicative unit level revised	Not Equivalent

Code and title current version	Code and title previous version	Comments	Equivalence status
	plans	Application clarified Performance Criteria re-sequenced Foundation Skills and Assessment Requirements updated	

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPTMM3213 Read and interpret timber truss or wall frame fabrication plans

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has interpreted fabrication information for one of the following and developed a project specification:

- a timber floor truss project, including:
 - span, spacing and position of joists
 - joist type and component sectional sizes
 - bearer and joist type
 - load-bearing requirements
 - cutting requirements
 - specified tie down and bracing requirements
 - metal nail/connector plates
 - special specified requirements
- a timber wall frame project, including:
 - type of construction and number of storeys
 - frame components and spacing, opening sizes and bracing details
 - wind bracing details
 - component types and component cutting list
 - load-bearing requirements
 - requirements for ribbon plates
 - specified tie down, bracing and connection details
- a timber roof truss project, including:
 - type of roof construction
 - floor plan dimensions and wall locations and truss spans
 - truss type and component sectional sizes
 - specified tie down and bracing requirements

- metal nail/connector plates
- special specified requirements.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- key features of truss or frame fabrication plans:
 - fabrication plans conventions
 - abbreviations, hatching and symbols
 - scale, dimension lines and line types
- terminology used in timber fabrication plans
- truss and frame timber components, metal connections and tie down materials
- units of measurement and allowable component tolerances
- types and features of timber floor and roof trusses and timber wall frames.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber fabrication facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - fabrication plans and cutting lists
- relationships:
 - person to confirm details of fabrication plan.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPTMM3214 Assemble timber floor trusses

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to plan, set up and assemble timber floor trusses using a purpose-built jig or computer-operated truss table. It includes the operation and control of a truss press.

The unit applies to machine operators and product technicians in a timber and wood products production environment at either a truss/frame fabrication facility or timber merchant's facility who take responsibility for organising and completing tasks assigned to them without close supervision.

No licensing, legislative, or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Timber Manufactured Products (TMM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for assembly	1.1 Determine job requirements from work order or fabrication plan, and where required, confirm with appropriate person 1.2 Confirm safety requirements for timber floor truss assembly according to workplace safety procedures 1.3 Identify type and determine quantity of material required for

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>assembly of floor trusses according to fabrication plan</p> <p>1.4 Determine type of nail plates and components required from specifications</p> <p>1.5 Select, fit and use personal protective equipment (PPE)</p> <p>1.6 Select appropriate tools and equipment, check for serviceability according to manufacturer recommendations and report faults or damage</p> <p>1.7 Determine job priorities and sequence job tasks according to fabrication plan</p>
2. Set up for floor timber truss assembly	<p>2.1 Prepare, set up and adjust assembly table or jigs to specified floor truss pattern configuration</p> <p>2.2 Select and position pre-cut material to include webs, overhang and other design requirements</p> <p>2.3 Discard defective or unsuitable components according to workplace procedures</p> <p>2.4 Clamp components in jigs and check for fit and allowable tolerances</p> <p>2.5 Select and position steel nail plates accurately over joints according to fabrication plan</p>
3. Control pressing operations	<p>3.1 Conduct a pre-operation check on truss press equipment according to manufacturer instructions and workplace procedures</p> <p>3.2 Carry out inspection of initial truss to ensure all nail plates are fixed according to fabrication plan</p> <p>3.3 Coordinate and operate truss-pressing operations and confirm finished product complies with fabrication plan and work order</p>
4. Prepare products for despatch and report	<p>4.1 Remove components from assembly table or jigs, and safely stack in designated location according to workplace safety requirements</p> <p>4.2 Strap, pack and label finished product ready for despatch</p> <p>4.3 Report equipment faults or production problems according to workplace procedures</p> <p>4.4 Complete and maintain accurate records and reports of assembly outcomes according to workplace procedures</p>
5. Clean up	<p>5.1 Clean work area and recycle, reuse or dispose of waste according to workplace and environmental requirements</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	5.2 Clean and maintain tools, equipment and machinery, and report any faults or damage according to workplace procedures 5.3 Return and safely store tools and equipment to designated areas

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Writing	<ul style="list-style-type: none"> Produce labels using clear and legible writing Complete records, reports or forms to convey information using correct grammar and punctuation.
Oral Communication	<ul style="list-style-type: none"> Use clear and concise language to report production problems or equipment faults.

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPTMM3214 Assemble timber floor trusses	FWPTMM3207 Set up timber floor trusses	Redesigned unit that includes content from FWPTMM3207 Set up timber floor trusses and FWPCOT3243 Operate a truss press	Not Equivalent
FWPTMM3214 Assemble timber floor trusses	FWPCOT3243 Operate a truss press	Redesigned unit that includes content from FWPTMM3207 Set up timber floor trusses and FWPCOT3243 Operate a truss press	Not Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPTMM3214 Assemble timber floor trusses

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has assembled timber floor trusses on at least two occasions.

In performing this assembly work, there must be evidence that the individual has:

- assembled pre-cut timber truss members and nail plate components with allowable tolerances and to job specifications
- set up and operated a truss press
- prepared timber truss products for despatch according to job design and specifications.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- workplace quality requirements relevant to assembling timber floor trusses
- workplace environmental policy and procedure for disposing of, recycling and reusing waste materials
- workplace safety requirements relevant to assembling timber floor trusses:
 - safe operation of machinery and equipment
 - exposure to excessive noise
 - hazardous manual tasks
 - use of personal protective equipment (PPE)
 - exposure to dust
 - hazard identification and controls
- processes, procedures and techniques for:
 - flow of material supply in and out of the floor truss assembly area
 - assembly sequences and jig and press operation

- stacking and storing materials
- labelling products for identification and transportation
- stacking, binding and protecting finished products ready for despatch
- workplace communication and reporting lines
- recording and reporting assembly outcomes and equipment faults
- functional and operational features of tools, equipment and machinery for floor truss assembly:
 - measuring and marking equipment
 - electric circular saws
 - docking saws
 - drills
 - assembly jigs
 - assembly table
 - nail plate presses
 - staple and nail guns
 - compressor or compressed air supply
 - strapping equipment
- characteristics, properties and limitations of timber products and components:
 - hardwood, softwood and manufactured timber product
 - various metal connector plates
- timber defects and impact on finished product:
 - warp
 - wane
 - cupping
 - shakes
 - insect defects
 - knots
 - resin pockets
- industry terminology related to floor truss assembly.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber manufacturing or processing facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - timber products and connector plates
 - assembly tables or jigs and press equipment to produce timber floor trusses

- specifications:
 - access to workplace policies and procedures, job design specifications and work orders applicable to assembling timber floor trusses
 - access to workplace safety and environmental requirements applicable to assembling timber floor trusses
- relationships:
 - supervisor or team member.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPTMM3215 Work effectively in the timber systems design industry

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to work effectively with a broad range of individuals and teams within the timber manufacturing products sector. It includes a sound understanding of the organisations' operations work practices and processes of timber systems design.

The unit applies to individuals who contribute to and provide quality product service to clients in a timber production or design setting. They use their own judgment to deal with predictable and unpredictable problems and decide on solutions to a range of problems during the timber design process.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Timber Manufactured Products (TMM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Research the timber systems design industry	1.1 Identify, read and interpret relevant timber system design regulations, codes and standards 1.2 Identify relevant workplace safety and environmental requirements

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>for timber systems design work</p> <p>1.3 Identify roles, responsibilities and scope of work of a timber systems designer</p> <p>1.4 Identify key industry stakeholders in the timber systems design industry</p>
2. Develop and apply product and process knowledge	<p>2.1 Identify efficient designer practices in timber system design</p> <p>2.2 Source and share information on new and emerging timber products and construction techniques that impact timber systems design</p> <p>2.3 Propose and promote the benefits of timber products to stakeholders</p> <p>2.4 Recognise factors that impact on design and manufacture of timber systems</p> <p>2.5 Identify methods of design and manufacture that optimise effective production</p> <p>2.6 Assess own timber system design industry product and process knowledge, and undertake professional development related to job role</p>
3. Work as a timber systems designer	<p>3.1 Identify, read and apply workplace policies and procedures relevant to own work role as timber systems designer</p> <p>3.2 Develop and maintain effective communications and relationships with stakeholders and workplace team members</p> <p>3.3 Identify and access materials, design documentation, specifications and equipment to complete the design task</p> <p>3.4 Sequence design tasks throughout the design project life cycle according to industry practices and workplace procedures</p> <p>3.5 Utilise technology to design, cost, produce, retain and communicate design information, plans and documentation according to industry and workplace procedures</p> <p>3.6 Clarify project and design information with manufacturer and client stakeholder</p> <p>3.7 Identify and resolve problems that impact the design, manufacture and construction of timber systems</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Identify and integrate information from various documentation to understand industry and organisational requirements
Oral communication	<ul style="list-style-type: none"> Select and use vocabulary appropriate to the audience Use terminology specific to role
Numeracy	<ul style="list-style-type: none"> Use measurement and formulas to calculate material quantities and costing

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPTMM3215 Work effectively in the timber systems design industry	Not applicable	This unit has been created to address an emerging skill or task required by industry	Newly created

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPTMM3215 Work effectively in the timber systems design industry

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has completed a minimum of five different timber systems design specific job tasks and has:

- followed relevant workplace policies and procedures relating to the job role as a timber systems designer
- sourced and shared timber system design information with stakeholders or work team
- used timber system design technology.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- building industry regulations, codes and standards relevant to timber systems design:
 - National Construction Code (NCC)
 - Timber Framing Code
- organisational risks of non-conforming design
- construction terminology relevant to timber systems design
- key features of plans, drawings and specifications used in timber systems design:
 - types and applications of plans and drawings
 - drawing conventions
- computers and appropriate software and processes to:
 - research information
 - communicate with internal and external stakeholders
 - input and amend design factors and other data
 - produce drawings, plans and documents
 - save and retrieve documents

- types, functions, capabilities and limitations of drawing software
- application, characteristics and limitations of materials and components used for:
 - wall frames
 - flooring systems
 - roofing systems
- communication techniques and methods to maintain stakeholder and workplace relationships
- key stakeholders in timber systems design industry:
 - architects
 - engineers
 - suppliers
 - builders
 - building regulators
 - industry associations
 - government bodies
- project life cycle:
 - initial planning
 - contract endorsement
 - project planning
 - timber systems design and manufacture
 - construction progress from commencement to completion
- factors that impact timber design:
 - location and type of building
 - material availability
 - cost and quality of materials and components
 - effect of floor members position on overlaying frame and roof truss member position
- certifying timber systems design layouts
- relevant work health and safety and environmental requirements.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber systems design workplace or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - computers, internet access and software programs
 - access to timber systems design software
- specifications:

- access to workplace policies, procedures and documentation applicable to timber systems design work
- access to workplace safety and environmental policies and procedures applicable to timber systems design
- access to design specifications and building plans
- relationships:
 - stakeholders and/or workplace personnel to discuss timber system designs with.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPTMM3216 Plane and sand engineered wood product

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to plane and sand the surfaces of engineered wood products in a timber manufacturing facility, optimising product thickness while retaining its integrity.

The unit applies to individuals who operate planing and sanding equipment used in the production of engineered wood products.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Timber Manufactured Products (TMM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for planing and sanding engineered wood product	1.1 Determine job requirements from work order or instructions and, where required, check with appropriate personnel 1.2 Confirm workplace health and safety and environmental protection practices and/or procedures for task, including use of personal

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>protective equipment and equipment lock-out</p> <p>1.3 Identify and assess hazards and take actions to mitigate risks related to engineered wood product dressing operations</p> <p>1.4 Obtain type and quantity of engineered wood product for planing and sanding from the production process</p>
2. Plane and sand engineered wood product	<p>2.1 Complete pre-start-up checks and set planing and sanding thickness and feed rate for optimal product recovery</p> <p>2.2 Position material and feed at a rate appropriate to machine speed, capacity, engineered wood product thickness and condition</p> <p>2.3 Plane and sand engineered wood product to specification and assess product visually throughout the process for thickness, finish quality and faults</p> <p>2.4 Coordinate outfeed to ensure efficient recovery of planed and sanded material</p> <p>2.5 Check dust extraction equipment regularly and clean to avoid blockages</p>
3. Redistribute finished engineered wood product	<p>3.1 Grade finished engineered wood product for quality and use according to industry standards</p> <p>3.2 Direct material to storage or processing operations according to workplace procedures</p> <p>3.3 Dispose of sub-standard material according to workplace environmental protection practices and/or procedures</p> <p>3.4 Clean work area according to workplace health and safety procedures</p>
4. Complete operator maintenance	<p>4.1 Lock out equipment according to workplace health and safety procedures</p> <p>4.2 Check planer blades and sanding belts for deterioration or damage</p> <p>4.3 Remove and replace planer blades and sanding belts according to manufacturer recommendations</p> <p>4.4 Keep machine area clear of dust and debris according to workplace health and safety procedures</p> <p>4.5 Record and report production outcomes, equipment faults and maintenance requirements to appropriate personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret routine information from work orders and manufacturer instructions for planing and sanding operations
Oral communication	<ul style="list-style-type: none"> Ask open and closed probing questions and actively listen to clarify contents of work orders and production documentation
Numeracy	<ul style="list-style-type: none"> Estimate quantities and dimensions of materials used in planing and sanding operations Calculate feed rate to optimise quality and quantity of production output

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPTMM3216 Plane and sand engineered wood product	FWPCOT3268 Plane and sand engineered wood products	Minor edits to unit title, Performance Criteria Updated Foundation Skills Revised Performance Evidence Minor edits to Knowledge Evidence	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPTMM3216 Plane and sand engineered wood product

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has planed and sanded the surfaces of any engineered wood product type for one production run, according to work instructions, using one of the following items of equipment:

- planer or thicknesser
- surface planer or buzzer
- drum sander
- sander
- veneer sander
- stroke sander
- other workplace planing or sanding equipment for engineered wood products.

In performing this task, the individual has:

- followed workplace health and safety, environmental protection and operating procedures
- selected and used personal protective equipment (PPE)
- performed pre-operational equipment checks
- set planing and sanding thickness and feed rate to equipment for optimal product recovery
- assessed product thickness, finish quality and faults visually throughout the process
- graded and directed finished product to storage or further processing
- disposed of sub-standard product
- conducted operator maintenance on planing and sanding equipment.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- health and safety hazards or risks related to operating equipment for planing and sanding engineered wood products, as identified through risk assessments, manufacturer technical information, regulations and industry health and safety guides
- workplace policies and procedures specific to planing and sanding engineered wood products, including:
 - health and safety, with particular emphasis on equipment lock-out, dust suppression and use of PPE
 - use of timber planing and sanding equipment
 - communication reporting lines
 - recording and reporting production outcomes, equipment faults and maintenance requirements
- workplace environmental protection requirements and practices for engineered wood product operations, including:
 - reducing water and energy use
 - cleaning plant, tools and equipment
 - disposing of, recycling and reusing timber and other waste
- techniques for planing and sanding engineered wood product
- methods of visual inspection of engineered wood product for thickness, finish quality and faults
- characteristics of relevant engineered wood product
- typical flow of material supply in and out of the planing and sanding area in engineered wood products manufacturing setting
- typical workflow processes and sanding techniques for optimising thickness, finish and quality of engineered wood product
- typical engineered wood product defects and how they affect the ability to produce quality finished product, including:
 - warp
 - wane
 - cupping
 - shakes
 - insect defects
 - knots
 - resin pockets
 - lifting veneer
 - bonding problems
- key features of, and applicable terminology for, industry standard grades for re-classifying quality and use of planed and sanded engineered wood products
- purpose, features and operation of equipment used to plane and sand engineered wood product in workplace environment
- methods for assessing condition of planer blades and sanding belts.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber product manufacturing plant or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - planing and sanding equipment
 - dust extraction equipment
 - maintenance tools and equipment for planers and sanders
 - planer blades and sanding belts
 - PPE suitable for planing and sanding engineered wood products
 - engineered wood products suitable for planing and sanding operations
- specifications:
 - manufacturer instructions for use and maintenance of equipment
 - work order or instructions with specific instructions for planing and sanding engineered wood product
 - workplace health and safety, emergency and environmental protection policies and/or procedures for planing and sanding engineered wood product.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPTMM3217 Develop knowledge of plywood or laminated veneer lumber production

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to develop a current understanding of the application and production processes of plywood or laminated veneer lumber (LVL) and identify adhesives and adhesive application systems used in plywood or LVL production.

The unit applies to individuals who are engaged in a range of operational work roles in plywood or LVL production.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Timber Manufactured Products (TMM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Identify properties and	1.1 Identify Australian Standards relevant to LVL or plywood

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
uses of plywood or LVL	production 1.2 Distinguish between the types of LVL or structural and non-structural plywood products 1.3 Identify timber species used in LVL or structural and non-structural plywood production 1.4 Assess physical and mechanical properties of plywood or LVL 1.5 Identify end-applications of LVL or plywood in building and construction
2. Research plywood or LVL production process	2.1 Identify characteristics of logs suitable for use in plywood or LVL production 2.2 Identify legislation, standards and codes of practice relevant to plywood or LVL production 2.3 Assess safety and environmental hazards associated with plywood or LVL production 2.4 Determine workflow in plywood or LVL production process and assess factors that may impact on that workflow 2.5 Identify manufacturing processes involved in plywood or LVL production 2.6 Identify quality checks conducted during plywood or LVL production
3. Identify adhesives and adhesive application systems used in plywood or LVL production	3.1 Identify types, properties, uses and hazards associated with adhesives used in plywood or LVL production as specified in relevant Australian Standards 3.2 Identify factors that impact on the bonding of wood with adhesives used in plywood or LVL production 3.3 Distinguish between thermoset and thermoplastic adhesives 3.4 Identify processes and quality checks that apply in adhesive preparation 3.5 Identify types, uses and advantages and disadvantages of adhesive application systems used in plywood or LVL production

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret safety data sheets on adhesives used in plywood or LVL production Recognise key information in technical documents related plywood or LVL production

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPTMM3217 Develop knowledge of plywood or laminated veneer lumber production	FWPWPP3201 Produce veneer from debarked logs	The unit has been redeveloped to address a skill or task required by industry that is not covered by an existing unit	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPTMM3217 Develop knowledge of plywood or laminated veneer lumber production

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has researched either plywood or laminated veneer lumber (LVL) production and documented:

- legislation, standards and codes of practice relevant to plywood or LVL production
- timber species and characteristics of logs used in plywood or LVL production
- two different end applications of either plywood or LVL products
- workflow in plywood or LVL production
- production processes for either plywood or LVL production
- one factor that may impact on quality and workflow in plywood or LVL production
- properties and one potential hazard of one adhesive product used in plywood or LVL production
- one type of adhesive application system used in plywood or LVL production.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- types and uses of plywood or LVL, including:
 - structural plywood
 - concrete formwork plywood
 - marine plywood
 - non-structural interior and exterior plywood
- key requirements of legislation, standards and codes of practice relevant to plywood or LVL production
- timber species used in plywood or LVL production, including:
 - softwood – radiata pine, hoop pine, slash pine
 - hardwood – eucalypt

- physical and mechanical properties of LVL or plywood, including:
 - cross lamination
 - dimensional stability
 - thermal properties
 - acoustic properties
 - electrical properties
 - chemical resistance
 - workability and bending ratio
 - plywood density
- end applications of plywood or LVL in building and construction, including:
 - plywood – panel product
 - LVL – framing member
- characteristics of logs from suitable timber species selected for use in plywood or LVL production, including:
 - size
 - straightness
 - nature and quantity of defects
- plywood or LVL production process, including:
 - log storage
 - log debarking and bucking
 - conditioning
 - peeling
 - drying
 - grading
 - layup and bonding
 - pressing
 - sanding, trimming and branding
- main differences in the manufacturing process for plywood and LVL, including:
 - grading stage
 - lay-up stage
 - pressing stage
- quality checks conducted during plywood or LVL production
- factors impacting on quality and workflow in plywood or LVL production, including:
 - availability of suitable timber species and quality
 - veneer quality
 - adhesives
 - bonding
 - operational, supervisory and management skills
 - access to and maintenance of plant and equipment
- safety and environmental hazards associated with plywood or LVL production

- types, properties, uses and hazards of adhesives specified in Australian Standards for plywood or LVL production, including:
 - Type A bonds – produced from phenol formaldehyde (PF) resin
 - Type B bonds – produced from melamine fortified urea formaldehyde resin (MUF)
 - Type C and D bonds – produced from urea formaldehyde resin (UF)
- factors that impact on the bonding of wood with adhesives used in plywood or LVL production
- types and uses of adhesive application systems, including:
 - hard rolls
 - air curtain
 - spray
 - extrusion.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- resources, equipment and materials:
 - reference materials on plywood or LVL production processes and adhesives and adhesive application systems used in plywood or LVL production
 - internet access and computer software and hardware for accessing technical information on plywood or LVL production
- specifications:
 - Australian Standards relevant to plywood or LVL production.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPTMM3218 Develop knowledge of veneer preparation in plywood or laminated veneer lumber production

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to develop a current understanding of the application and production processes involved in constructional veneer production for plywood or laminated veneer lumber (LVL) manufacture.

The unit applies to individuals who are engaged in a range of operational roles in plywood and LVL production.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Timber Manufactured Products (TMM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Determine criteria for selecting peeler logs and end uses of rotary peeled	1.1 Identify different categories of veneer products 1.2 Identify timber species and characteristics of peeler logs used in

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
veneers	constructional veneer production 1.3 Identify criteria used to assign a value to peeler logs 1.4 Assess advantages of veneer-based products compared to solid wood products 1.5 Identify uses of rotary peeled veneers
2. Research constructional veneer production process	2.1 Identify the workflow in constructional veneer production 2.2 Identify legislation, standards and codes of practice relevant to veneer preparation in plywood or LVL production 2.3 Investigate processes involved in constructional veneer production 2.4 Identify quality checks conducted during constructional veneer production 2.5 Assess factors that impact on quality and workflow in constructional veneer production 2.6 Assess safety and environmental hazards associated with constructional veneer production
3. Investigate log preparation and conditioning processes used in constructional veneer manufacturing	3.1 Identify impact of wood and log characteristics on veneer production 3.2 Identify adverse effects of log storage on veneer production, and remedial actions that can be implemented 3.3 Assess log characteristics that impact on debarking 3.4 Assess billet properties that impact on lathe yield 3.5 Identify causes of high roughness, short veneer and distortion in veneer that relate to billet properties 3.6 Investigate log conditioning process and advantages and disadvantages of log conditioning 3.7 Identify actions to prevent the adverse effects of log conditioning on veneer manufacture
4. Investigate rotary peeling process in constructional veneer production	4.1 Identify types, features, operating principles and safety requirements for lathes used in rotary peeling 4.2 Identify impact of nose bar set-up and adjustment on veneer quality 4.3 Identify common problems in the rotary spinning process, and appropriate corrective actions

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	4.4 Identify the cause of veneer peeling defects 4.5 Assess effects of wood properties on veneer quality
5. Research green veneer processing in constructional veneer production	5.1 Identify characteristics of green veneer 5.2 Identify factors that impact on clipper speed and clipped veneer quality 5.3 Investigate stages in green veneer processing 5.4 Assess common problems in scarfing process, and appropriate corrective actions 5.5 Assess common composer quality problems and appropriate corrective actions
6. Research constructional veneer drying process	6.1 Identify purpose of veneer drying 6.2 Investigate stages in veneer drying 6.3 Assess moisture gradients and their impacts on veneer quality 6.4 Assess common defects resulting from veneer drying, and methods to reduce or eliminate these defects 6.5 Assess common operational problems in veneer drying, and appropriate corrective actions
7. Assess constructional veneer grading processes	7.1 Identify reasons for grading veneer sheets 7.2 Research grading criteria and grade classes for veneer in Australian Standards 7.3 Distinguish between visual grading and automatic grading 7.4 Assess common defects affecting veneer grade 7.5 Assess operating principles of automatic veneer strength, moisture and appearance grading systems

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
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Skill	Description
Reading	<ul style="list-style-type: none"> Interpret basic industry reference materials on constructional veneer manufacture
Writing	<ul style="list-style-type: none"> Write basic notes using technical terms relevant to constructional veneer manufacture
Oral communication	<ul style="list-style-type: none"> Use questioning skills to gather information related to constructional veneer manufacture
Numeracy	<ul style="list-style-type: none"> Interpret measurements displayed on moisture gradient meter

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPTMM3218 Develop knowledge of veneer preparation in plywood or laminated veneer lumber production	FWPWPP3231 Produce veneer from prepared flitches	The unit has been redeveloped to address a skill or task required by industry that is not covered by an existing unit	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPTMM3218 Develop knowledge of veneer preparation in plywood or laminated veneer lumber production

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has researched veneer production in plywood or laminated veneer lumber (LVL) production and documented:

- two categories of veneer products
- legislation, standards and codes of practice relevant to veneer preparation in plywood or LVL production
- timber species and characteristics of peeler logs used in constructional veneer production
- two end applications of constructional veneer
- workflow in constructional veneer production
- one factor that may impact on quality and workflow in constructional veneer production
- stages involved in two of the following processes in constructional veneer preparation for plywood and LVL manufacture:
 - log preparation and conditioning processes
 - rotary peeling process
 - green veneer processing
 - veneer drying process
 - visual or automatic veneer grading processes
- one common problem and one relevant corrective action in one of the following processes in constructional veneer preparation for LVL or plywood manufacture:
 - log preparation and conditioning processes
 - rotary peeling process
 - green veneer processing
 - veneer drying process
 - visual or automatic veneer grading processes.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- key requirements of legislation, standards and codes of practice relevant to veneer preparation in plywood or LVL production, including key requirements in Australian Standards relevant to constructional veneer preparation in LVL or plywood production
- categories of veneer products, including:
 - constructional – veneers for plywood and LVL production
 - decorative – veneers for aesthetic surface appeal
- characteristics of peeler logs from suitable timber species selected for use in veneer production, including:
 - age
 - growth rate
 - stem form
 - size
 - straightness
 - nature and quantity of defects
- criteria used to assign a value to peeler logs, including:
 - species
 - available volume
 - grade
- advantages of veneer-based products compared to solid wood products, including:
 - versatility and suitability for diverse applications
 - greater control over the wood property variability and gradients within the final product
 - ability to span wide supports
 - improved shear strength and impact resistance
- uses of rotary peeled veneers, including:
 - plywood panels
 - LVL
 - multilaminar wood
 - veneer based mass panels
- veneer production process, including:
 - log debarking and bucking
 - conditioning
 - peeling
 - clipping
 - drying
 - joint or veneer repair
 - crossbands

- grading – plywood grading and LVL grading
- quality checks conducted during veneer production
- factors impacting on quality and workflow in veneer production, including:
 - availability of suitable timber species and quality
 - veneer quality
 - operational, supervisory and management skills
 - access to and maintenance of plant and equipment
- types, features, operating principles and safety requirements for lathes used in rotary peeling, including:
 - spindled
 - hybrid
 - spindleless
- causes and remedies for common problems in rotary spinning process, including:
 - thermal distortion of the knife
 - knife condition and set-up
 - spin-out
 - barrelling
 - cotton reeling
 - mixing wet and dry veneer
 - mis-tracking
- veneer peeling defects
- effects of wood properties on veneer quality
- characteristics of green veneer, including:
 - not dried
 - high moisture content
- green veneer processing, including:
 - scarfing
 - composing
 - welding
 - jointing
- common problems in the scarfing process, and appropriate corrective actions
- common composer quality problems and appropriate corrective actions
- purpose of veneer drying
- stages in veneer drying
- moisture gradients and their impacts on veneer quality
- common defects resulting from veneer drying, and methods to reduce or eliminate these defects
- common operational problems in veneer drying, and appropriate corrective actions
- safety and environmental hazards associated with veneer production
- reasons for grading veneer sheets
- grading criteria and grade classes for veneer in Australian Standards

- uses and features of visual grading and automatic grading
- common defects affecting veneer grade, including:
 - sound knot
 - loose knot
 - pin knot
 - hole
 - split
 - gum pocket
 - gum vein
 - insect attack
 - discoloration
 - grain tear out
 - knife mark
 - fungal decay
 - waviness
 - rough
 - scratch
 - joint
 - bark pocket
- operating principles of automatic veneer strength, moisture and appearance grading systems.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- resources, equipment and materials:
 - reference materials on constructional veneer preparation in LVL or plywood production
 - internet access and computer software and hardware for accessing technical information on constructional veneer preparation in LVL or plywood production
- specifications:
 - Australian Standards relevant to constructional veneer preparation in LVL or plywood production.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPTMM3219 Develop knowledge of reconstituted wood panel production

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to develop a current understanding of the processes involved in the production of a reconstituted wood panel product, selected from chipboard, hardboard, medium and high-density fibre board (MDF), oriented strand board (OSB) or particle board. It includes types and characteristics of the selected reconstituted wood panel product, stages in the production of the reconstituted wood panel product, adhesives and adhesive systems used in the production of reconstituted wood panel product, and quality control in the production of reconstituted wood panel product.

The unit applies to individuals who are engaged in a range of operational work roles in the production of reconstituted wood panel products.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Timber Manufactured Products (TMM)

Elements and Performance Criteria

Elements	Performance Criteria
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<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Identify properties and uses of selected reconstituted wood panel product	<p>1.1 Identify mechanical and physical properties of reconstituted wood panel product</p> <p>1.2 Identify application of reconstituted wood panel product in building and construction</p> <p>1.3 Assess advantages and disadvantages of using reconstituted wood panel product as a building and construction material</p>
2. Research production process for selected reconstituted wood panel product	<p>2.1 Identify legislation, standards and codes of practice relevant to reconstituted wood panel production</p> <p>2.2 Assess safety and environmental hazards associated with production of reconstituted wood product</p> <p>2.3 Determine workflow in production of reconstituted wood product and assess factors that may impact on that workflow</p> <p>2.4 Identify equipment and processes involved in production of reconstituted wood product</p>
3. Identify adhesives and adhesive systems used in production of selected reconstituted wood panel product	<p>3.1 Identify types, properties and hazards associated with adhesives used in production of reconstituted wood panel product</p> <p>3.2 Identify types and applications of adhesive systems used in production of reconstituted wood product</p>
4. Assess quality control checks in production of selected reconstituted wood panel product	<p>4.1 Identify factors that influence bond quality in production of reconstituted wood product</p> <p>4.2 Identify quality control check points in production of reconstituted wood product</p> <p>4.2 Assess quality parameters and process data collected and monitored during production of reconstituted wood product</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret safety data sheets on adhesives used in production of reconstituted wood panel product Recognise key information in technical documents related to

Skill	Description
	production of reconstituted wood panel product

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPTMM3219 Develop knowledge of reconstituted wood panel production	Not applicable	The unit has been created to address a skill or task required by industry that is not covered by an existing unit	Newly created

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPTMM3219 Develop knowledge of reconstituted wood panel production

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has researched one reconstituted wood panel product selected from the following:

- chipboard
- hardboard
- medium or high-density fibre board (MDF)
- oriented strand board (OSB)
- particle board

In the performing this task, the individual has identified:

- legislation, standards and codes of practice relevant to reconstituted wood panel production
- two mechanical and physical properties of the reconstituted wood panel product
- one application of reconstituted wood panel product in the building and construction industry
- one advantage and one disadvantage of using reconstituted wood panel product in building and construction
- production workflow for reconstituted wood panel product and two factors that may affect workflow performance
- one type of adhesive and one type of adhesive system used in the production of reconstituted wood panel product
- properties and one potential hazard of one adhesive product used in production of reconstituted wood panel product
- three examples of quality control check points in production of reconstituted wood panel product
- three factors that may affect adhesion quality in production of reconstituted wood panel product.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- mechanical and physical properties of reconstituted wood panel product, including:
 - Australian Standard specification for dimensions
 - moisture properties
 - absorption and swelling
 - dimensional changes
 - thermal properties
 - acoustic properties
 - bio-deterioration
- key requirements of legislation, standards and codes of practice, including National Construction Code, relevant to reconstituted wood panel production
- application of reconstituted wood panel product in building and construction, including:
 - uses of product
 - advantages of use in building and construction:
 - disadvantages of use in building and construction
- stages involved in production of reconstituted wood panel product, including:
 - raw material procurement or generation
 - particle preparation
 - drying
 - blending with adhesive and sometimes wax
 - forming
 - pressing
 - finishing
- factors impacting on workflow in production of reconstituted wood panel product, including:
 - availability of raw materials
 - operational, supervisory and management skills
 - access to and maintenance of plant and equipment
- types, properties and hazards of adhesives used in production of reconstituted wood panel product
- types and applications of adhesive systems used in production of reconstituted wood panel product
- quality control check points in production process for reconstituted wood panel product
- quality parameters and process data collected and monitored during production process
- defects in reconstituted wood panel product
- factors that may affect adhesion quality in production of reconstituted wood panel product
- safety and environmental hazards associated with production of reconstituted wood panel product.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- resources, equipment and materials:
 - reference materials on production process for reconstituted wood panel product and adhesives and adhesive systems used in production of reconstituted wood product
 - internet access and computer software and hardware for accessing technical information on production of reconstituted wood panel product
- specifications:
 - sections of National Construction Code related to application of reconstituted wood panel product in building and construction.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPTMM3220 Develop knowledge of glue laminated timber or cross laminated timber production

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to develop a current understanding of the application and production processes of glue laminated timber (GLT) or cross laminated timber (CLT), identify gluing systems and curing procedures used in GLT or CLT production, and examine the testing and quality control procedures used in GLT or CLT production.

The unit applies to individuals who are engaged in a range of operational work roles in GLT or CLT production.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Timber Manufactured Products (TMM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Identify properties and uses of GLT or CLT	<p>1.1 Identify properties and various applications of GLT or CLT in building and construction</p> <p>1.2 Assess advantages and disadvantages of using GLT or CLT as a building and construction material</p>
2. Identify GLT or CLT production process	<p>2.1 Identify legislation, standards and codes of practice relevant to GLT or CLT production</p> <p>2.2 Assess safety and environmental hazards associated with GLT or CLT production process</p> <p>2.3 Determine workflow in GLT or CLT production process and assess factors that may impact on that workflow</p> <p>2.4 Identify processes involved in the lamella production stage</p> <p>2.5 Identify processes involved in forming or laying board layers stage</p> <p>2.6 Determine equipment and processes used in the pressing stage</p> <p>2.7 Determine steps in final processing stage, including calibrating and lengthwise or all sides cutting of laminated product</p>
3. Identify glues and gluing systems used in GLT or CLT production	<p>3.1 Identify types, properties and hazards associated with glues used in GLT or CLT production</p> <p>3.2 Identify types and applications of gluing systems used in GLT or CLT production</p> <p>3.3 Identify glue curing methods in GLT or CLT production</p>
4. Assess testing and quality control procedures in GLT or CLT production	<p>4.1 Identify factors that influence joint and bond quality in CLT or GLT production</p> <p>4.2 Identify quality control check points in GLT or CLT production process</p> <p>4.3 Identify types and causes of delamination and non-delamination defects in GLT or CLT production</p> <p>4.4 Assess purpose and application of bond strength and durability tests in GLT or CLT production</p> <p>4.5 Identify testing procedures and how test data is interpreted and used to determine appropriate follow-up actions</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none">Interpret safety data sheets on glues used in GLT or CLT productionRecognise key information in technical documents related to GLT or CLT production

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPTMM3220 Develop knowledge of glue laminated timber or cross laminated timber production	Not applicable	The unit has been created to address a skill or task required by industry that is not covered by an existing unit	Newly created

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPTMM3220 Develop knowledge of glue laminated timber or cross laminated timber production

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has researched either glue laminated timber (GLT) or cross laminated timber (CLT) production and documented:

- legislation, standards and codes of practice relevant to GLT or CLT production
- two examples of GLT or CLT product appearance and structural grades for building and construction applications
- two examples of GLT or CLT product applications in the building and construction industry
- two advantages and two disadvantages of GLT or CLT building and construction material
- production workflow for either GLT or CLT, and two factors that may affect workflow performance
- one type of gluing system used in either GLT or CLT production
- properties and one potential hazard of two glue products used in either GLT or CLT production
- three timber characteristics required in the lamination process in GLT or CLT production to ensure joint and bond quality
- three examples of quality control check points in GLT or CLT production
- three factors that may affect lamination quality in GLT or CLT production.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- key requirements of legislation, standards and codes of practice, including National Construction Code, relevant to GLT or CLT production
- properties of GLT or CLT, including:
 - appearance grades

- structural grades
- advantages of using GLT or CLT in building and construction, including:
 - fire and seismic performance
 - insulation
 - strength to weight ratio
 - dimensional stability
 - sustainable material
 - prefabrication
 - durability
 - carbon reduction
- disadvantages of using GLT or CLT in building and construction, including:
 - cost
 - resistance to humidity
 - airtightness
- applications of GLT or CLT in building and construction, including:
 - GLT – beams, column, roof trusses
 - CLT – floors, walls, roofs, stairs
- characteristics of timber used in GLT or CLT production, including:
 - moisture content
 - visual appearance
 - structural properties
- stages involved in GLT or CLT production, including:
 - lamella production stage – pre-planing, timber grading, optimising – removal of defects, finger jointing lamellas, planing and cross-cutting
 - forming of layers and glue application stage
 - pressing stage
 - final processing stage – calibrating and cutting either lengthwise or framing
- factors impacting on workflow in GLT or CLT production, including:
 - availability of timber
 - operational, supervisory and management skills
 - access to and maintenance of GLT or CLT plant and equipment
- types, properties and hazards of glues used in GLT or CLT production, including:
 - polyurethane adhesives
 - phenol resorcinol formaldehyde adhesive
- types and applications of gluing systems
- quality control check points in GLT or CLT production process
- defects in GLT or CLT products, including:
 - delamination defects
 - non-delamination defects – stepping, incorrect finger-joint placements, incorrect lay-up

- factors that may affect lamination quality of GLT or CLT products, including:
 - moisture content
 - timber grade
 - straight and square edges and faces
 - consistent thickness
 - surface finish
 - glues and adhesives
 - curing temperature
 - pressing time
 - post-cure time
- bond strength and durability tests used in GLT or CLT production process, including how to read test data and use results
- safety and environmental hazards associated with GLT or CLT production.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- resources, equipment and materials:
 - reference materials on GLT or CLT production processes and glue and gluing systems used in GLT or CLT production processes
 - internet access and computer software and hardware for accessing technical information on GLT or CLT production
- specifications:
 - sections of National Construction Code relevant to GLT or CLT applications in building and construction.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPTMM4209 Interpret details of timber roof trusses to inform design of plans and production documents

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to interpret and apply a broad range of information into the design of timber roof trusses. It includes applying detailed information for the preparation of timber roof truss drawings, production documents and installation instructions using custom software for timber systems design.

The unit applies to timber systems designers and fabricators who use their own judgment to deal with predictable and unpredictable problems and decide on solutions to a range of complex problems during the documentation preparation process.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Timber Manufacturing Products (TMM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for design of layout plans	1.1 Read and interpret building plans and specifications to determine and verify applied loads and other design factors 1.2 Interpret and apply relevant building codes, regulations and

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>standards for timber roof truss design</p> <p>1.3 Confirm workplace quality requirements for the design of timber roof trusses</p> <p>1.4 Consult with stakeholders/clients to clarify design requirements</p> <p>1.5 Identify and resolve design, production and/or installation issues outside software limitations, and seek appropriate advice</p> <p>1.6 Check custom computer software for currency</p>
2. Create and review design options	<p>2.1 Design and draft a timber roof truss layout plan</p> <p>2.2 Review design to confirm it meets client requirements and complies with appropriate building regulations, codes and standards</p> <p>2.3 Review layout to confirm it optimises efficiency of material use and production procedures</p> <p>2.4 Amend design options if necessary</p>
3. Design production and installation documentation	<p>3.1 Confirm dimensions, span measurements and timber roof truss layout from building plans and specifications</p> <p>3.2 Input applied spans, loads and data into software and create a timber roof truss layout</p> <p>3.3 Prepare production and client installation documentation according to workplace quality requirements</p> <p>3.4 Certify timber roof truss design complies with relevant building regulations, codes and practices, according to regulatory and workplace requirements</p> <p>3.5 Store drawings and documentation according to workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Select and extract information from a range of documents and diagrammatic texts

Skill	Description
Writing	<ul style="list-style-type: none"> Apply interrelationships between written and diagrammatic forms to produce installation documentation

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPTMM4209 Interpret details of timber roof trusses to inform design of plans and production documents	FWPTMM4205 Prepare and advise on a broad range of timber roof truss details using computers	Redesigned unit that includes content from FWPTMM4205 Prepare and advise on a broad range of timber roof truss details using computers FWPTMM3204 Interpret designs to prepare timber roof truss drawings and documents using computers	Not Equivalent
FWPTMM4209 Interpret details of timber roof trusses to inform design of plans and production documents	FWPTMM3204 Interpret designs to prepare timber roof truss drawings and documents using computers	Redesigned unit that includes content from FWPTMM4205 Prepare and advise on a broad range of timber roof truss details using computers FWPTMM3204 Interpret designs to prepare timber roof truss drawings and documents using computers	Not Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPTMM4209 Interpret details of timber roof trusses to inform design of plans and production documents

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has designed layout plans and developed production and installation documentation using timber systems design software for each of the following:

- a hip and valley roof with a minimum area of 100 square metres that includes a dutch gable and a gable end
- a complex hip end
- a sloping ridge.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- building industry regulations, codes and standards relevant to design of timber roof trusses:
 - National Construction Code (NCC)
- risks of non-conforming design
 - responsibilities and limits of authority with regard to certifying and non-conforming design
- types of roofs:
 - bell
 - bowstring
 - dual pitch
 - gabled
 - hipped

- mansard
- skillion
- types of timber roof trusses:
 - A type
 - truncated
 - girder
 - jack
 - rafter
 - gable
 - saddle
 - raking
- interaction between roof truss types
- factors that contribute to roof truss design:
 - climate zones
 - wind forces
 - timber grading
 - tie down requirements
 - roof lining materials
- key features of plans, drawings and specifications:
 - types and applications of plans and drawings
 - relating specified information with plan and drawing details
- appropriate software, including custom software for timber systems design to:
 - research information
 - communicate with internal and external stakeholders
 - input and amend design factors and other data
 - produce drawings, plans and documents
 - store and retrieve documents
- types, functions, capabilities and limitations of drawing software
- application, characteristics and limitations of materials and components used for roofing systems
- certifying timber roof truss design layouts.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a design or manufacturing workplace or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - computers and software, including timber systems design software

- specifications:
 - access to workplace policies, procedures and processes relevant to designing timber roof trusses and providing design advice
 - access to building regulations, codes and standards relevant to timber roof trusses
 - access to workplace health and safety and environmental policies and procedures applicable to design of timber roof trusses.
- relationships:
 - clients/stakeholders to discuss and confirm timber roof truss design.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPTMM4210 Interpret details of timber floor systems to inform design of plans and production documents

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to interpret and apply a broad range of information into the design of timber floor systems. It includes applying detailed information for the preparation of timber flooring system drawings, production documents and installation instructions using custom software for timber systems design.

The unit applies to timber systems designers and fabricators who use their own judgment to deal with predictable and unpredictable problems and decide on solutions to a range of complex problems during the documentation preparation process.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Timber Manufacturing Products (TMM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for design of layout plans	1.1 Read and interpret building plans and specifications to determine and verify applied loads and other design factors 1.2 Interpret and apply relevant building codes, regulations and

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	standards for timber floor systems design 1.3 Confirm workplace quality requirements for the design of timber floor systems 1.4 Consult with stakeholders/clients to clarify design requirements 1.5 Identify and resolve design, production and/or installation issues outside software limitations, and seek appropriate advice 1.6 Check custom computer software for currency
2. Design and review design options	2.1 Design and draft a timber floor system layout plan 2.2 Review design to confirm it meets client requirements and complies with appropriate building regulations, codes and standards 2.3 Review layout to confirm it optimises efficiency of material use and production procedures 2.4 Amend design options if necessary
3. Design production and installation documentation	3.1 Confirm dimensions, span measurements and timber floor sections from building plans and specifications 3.2 Input applied spans, loads and data into software and create a flooring system layout 3.3 Prepare and produce production and client installation documentation according to workplace quality requirements 3.4 Certify timber floor design complies with relevant building regulations, codes and practices, according to regulatory and workplace requirements 3.5 Store drawings and documentation according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Select and extract information from a range of documents and diagrammatic texts

Skill	Description
Writing	<ul style="list-style-type: none"> Apply interrelationships between written and diagrammatic forms to produce installation documentation

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPTMM4210 Interpret details of timber floor systems to inform design of plans and production documents	FWPTMM4206 Prepare and advise on a broad range of timber floor system details using computers	Redesigned unit that includes content from FWPTMM4206 Prepare and advise on a broad range of timber floor system details using computers and FWPTMM3205 Interpret designs to prepare timber floor system drawings and documents using computers	Not Equivalent
FWPTMM4210 Interpret details of timber floor systems to inform design of plans and production documents	FWPTMM3205 Interpret designs to prepare timber floor system drawings and documents using computers	Redesigned unit that includes content from FWPTMM4206 Prepare and advise on a broad range of timber floor system details using computers and FWPTMM3205 Interpret designs to prepare timber floor system drawings and documents using computers	Not Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPTMM4210 Interpret details of timber floor systems to inform design of plans and production documents

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has designed layout plans and developed production and installation documentation using timber system design software for one on ground flooring system and one first floor wide span flooring system project, each:

- with a minimum of 100 square metres
- including a minimum of one internal load-bearing wall.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- building industry regulations, codes and standards relevant to design of timber floor systems:
 - National Construction Code (NCC)
- risks of non-conforming design:
 - responsibilities and limits of authority with regard to certifying and non-conforming design
- types of timber flooring systems:
 - I-beams
 - laminated beams
 - webbed truss
 - solid timber sections
 - composite systems
- key features of plans, drawings and specifications:
 - types and applications of plans and drawings

- relating specified information to plans and drawing details
- construction terminology
- elements that affect timber floor systems design:
 - types of sub-floor support
 - spans
 - live and dead loads
 - tie down requirements
 - fire separation/protection
 - termite protection
- appropriate software, including custom software for timber systems design to:
 - research information
 - communicate with internal and external clients/stakeholders
 - input and amend design factors and other data
 - produce drawings, plans and documents
 - store and retrieve documents
- types, functions, capabilities and limitations of drawing software
- application, characteristics and limitations of materials and components used for timber flooring systems
- certifying timber floor systems design layouts.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a design or manufacturing workplace or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - computers and software, including timber systems design software
- specifications:
 - access to workplace policies, procedures and processes relevant to designing timber floor systems and providing design advice
 - access to building regulations, codes and standards relevant to timber floor systems
 - access to workplace health and safety and environmental policies and procedures applicable to design of timber floor systems.
- relationships:
 - clients/stakeholders to discuss and confirm timber floor systems design.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPTMM4211 Interpret details of timber wall frames to inform design of plans and production documents

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to interpret and apply a broad range of information into the design of timber wall frames. It includes applying detailed information for the preparation of timber wall frame drawings, production documents and installation instructions using custom software for timber systems design.

This unit applies to timber systems designer and fabricators who use their own judgment to deal with predictable and unpredictable problems and decide on solutions to a range of complex problems during the documentation preparation process.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Timber Manufacturing Products (TMM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for design of layout plans	1.1 Read and interpret building plans and specifications to determine and verify applied loads and other design factors 1.2 Interpret and apply relevant building codes, regulations and

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	standards for timber wall frame design 1.3 Confirm workplace quality requirements for the design of timber wall frames 1.4 Consult with stakeholders/clients to clarify design requirements 1.5 Identify and resolve design, production and/or installation issues outside software limitations, and seek appropriate advice 1.6 Check custom computer software for currency
2. Design and review design options	2.1 Design and draft a timber wall layout plan 2.2 Review design to confirm it meets client requirements and complies with appropriate building regulations, codes and standards 2.3 Review layout to confirm it optimises efficiency of material use and production procedures 2.4 Amend design options if necessary
3. Design production and installation documentation	3.1 Confirm dimensions, opening measurements and timber wall frames heights from building plans and specifications 3.2 Input applied spans, loads and data into software and create a wall frame layout 3.3 Prepare and produce production and client installation documentation according to workplace quality requirements 3.4 Certify wall frame design complies with relevant building regulations, codes and practices, according to regulatory and workplace requirements 3.5 Store drawings and documentation according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Select and extract information from a range of documents and diagrammatic texts

Skill	Description
Writing	<ul style="list-style-type: none"> Apply interrelationships between written and diagrammatic forms to produce installation documentation

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPTMM4211 Interpret details of timber wall frames to inform design of plans and production documents	FWPTMM4207 Prepare and advise on a broad range of timber wall frame details using computers	Redesigned unit that includes content from FWPTMM4207 Prepare and advise on a broad range of timber wall frame details using computers and FWPTMM3206 Interpret designs to prepare timber wall frame drawings and documents using computers	Not Equivalent
FWPTMM4211 Interpret details of timber wall frames to inform design of plans and production documents	FWPTMM3206 Interpret designs to prepare timber wall frame drawings and documents using computers	Redesigned unit that includes content from FWPTMM4207 Prepare and advise on a broad range of timber wall frame details using computers and FWPTMM3206 Interpret designs to prepare timber wall frame drawings and documents using computers	Not Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPTMM4211 Interpret details of timber wall frames to inform design of plans and production documents

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has designed layout plans and developed production and installation documentation using timber systems design software for two projects:

- one standard height timber wall project and one raking timber frame project with a pitch of greater than 5 degrees with one being fire rated.

Each project must include:

- a minimum of ten walls
- internal, external and butting intersections
- a minimum of four openings, two with a minimum span of 2.4 m.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- building industry regulations, codes and standards for timber wall frames:
 - National Construction Code (NCC)
- workplace policies, procedures and processes relating to design of wall frames plans and production documents:
- risks of non-conforming design:
 - responsibilities and limits of authority with regard to certifying and non-conforming design
- construction terminology relating to wall frame design
- factors affecting timber frame design:
 - climate zones

- wind forces
- timber grading
- tie down requirements
- key features of plans, drawings and specifications:
 - types and applications of plans and drawings
 - relating specified information to plans and drawing details
- appropriate software, including custom software for timber systems design to:
 - research information
 - communicate with internal and external stakeholders
 - input and amend design factors and other data
 - produce drawings, plans and documents
 - store and retrieve documents
- types, functions, capabilities and limitations of drawing software
- application, characteristics and limitations of materials and components used for wall frames
- certifying timber wall frame design layouts.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a design or manufacturing workplace or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - computers and software, including timber systems design software
- specifications:
 - access to workplace policies and procedures relevant to designing timber wall frame plans and production documents
 - access to building regulations, codes and standards relating to timber wall frame design and production
- relationships:
 - clients/stakeholders to discuss timber frame design.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPTMM4212 Calculate production costs

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to estimate resource requirements for production of a range of timber products. It includes calculating overarching production costs and determining general supply costs.

The unit applies to timber manufacturing and production supervisors in a forest and wood products manufacturing setting, who use their own judgment to deal with predictable and unpredictable problems and decide on solutions to a range of complex problems during the documentation preparation process.

The unit does not cover the preparation of individual quotations for customers.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Timber Manufactured Products (TMM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Gather and analyse information	1.1 Obtain and analyse details of materials, production operations and labour costs from work order 1.2 Source and analyse details of logistic support contracts and supply

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	agreements 1.3 Identify cost factors relating to warehousing and physical distribution systems 1.4 Identify all production cost factors for establishing supply cost
2. Estimate materials and labour	2.1 Estimate and record types and quantities of materials required for production 2.2 Estimate and record lead times and time requirements for production activities 2.3 Estimate and record labour requirements for direct production and handling operations
3. Calculate and document production cost	3.1 Determine production components contributing to overhead costs 3.2 Determine type and percentage of overhead costs to be attributed to production procedures 3.3 Calculate total production cost and apply mark-up 3.4 Determine supply cost in conjunction with marketing and sales personnel 3.5 Document details of calculations and supply cost according to workplace formats
4. Check and document details of production and supply costs	4.1 Check costs and calculations against production requirements 4.2 Report calculation processes and organise checking by relevant personnel for final authorisation 4.3 Complete accurate records of production and supply costs according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Identify implicit and explicit production information for a variety of workplace documentation

Skill	Description
	<ul style="list-style-type: none"> Extract and utilise detailed information contributing to production costs
Writing	<ul style="list-style-type: none"> Integrate compiled production costs into a clear financial document
Oral communication	<ul style="list-style-type: none"> Use financial terminology and production language when seeking cost supply information
Numeracy	<ul style="list-style-type: none"> Use mathematical processes such as ratios, rates and percentages to calculate quantities and overall costs

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPTMM4212 Calculate production costs	FWPTMM4202 Diagnose and calculate production costs	Re-titled Minor wording and grammatical changes in Application and Performance Criteria Foundation Skills updated Assessment Requirements updated for clarity	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPTMM4212 Calculate production costs

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has calculated production costs for three different work orders for at least one product range from the list below:

- pallets
- crates
- trellises
- stairs
- doors
- windows
- frames
- beams
- treated timber
- structural timber
- flooring
- decking
- laminated timber
- roof truss
- floor truss
- wall frame.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- sources of negotiated cost of supply, contractual arrangements and preferred supplier arrangements
- sources of production costs for:

- materials specific to production operations
- labour unit costs specific to production operations
- methods of construction and production
- complying with environmental protection practices relevant to manufacturing and storage
- warehousing and distribution
- business overheads and how overheads are applied to individual production operations
- desired profit margins and appropriate commercial mark-ups to suit market acceptance
- workplace procedures for documenting calculations, communicating costs to relevant personnel and maintaining records
- industry regulations, standards and codes of practice relevant to calculating production cost.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated a timber manufactured product fabrication or processing facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - workplace documentation and records containing material and product costing and labour costs
- specifications
 - access to work orders according to the Performance Evidence
- relationships:
 - person to discuss product and supply costs.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPTMM4213 Test finger jointed timber

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to collect, prepare and test samples of finger jointed timber. The unit includes interpreting test results for the identification of problems in production and making necessary changes to processes.

The unit applies to individuals who are engaged in finger jointed timber production.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Timber Manufactured Products (TMM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for testing finger jointed timber	1.1 Determine job requirements from work order or instruction and, where required, seek clarification from appropriate personnel 1.2 Confirm workplace health and safety and environmental protection practices and/or procedures for task, including use of personal

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	protective equipment 1.3 Confirm legislation, standards and codes of practice relevant to testing finger jointed timber 1.4 Identify and assess hazards and take actions to mitigate risks related to testing operations 1.5 Consult appropriate personnel to ensure that work is coordinated effectively with others in the workplace 1.6 Select tools and equipment for testing operations, and check for serviceability according to workplace procedures 1.7 Collect, label and prepare samples for testing according to workplace procedures
2. Calibrate equipment for testing finger jointed timber	2.1 Set up equipment for testing strength of finger jointed timber 2.2 Calibrate test equipment according to manufacturer instructions and workplace procedures 2.3 Record calibration results according to workplace procedures
3. Conduct test on finger jointed timber and analyse test results	3.1 Test sample according to workplace procedures 3.2 Collate information on test results 3.3 Analyse and record test results 3.4 Store samples according to workplace procedures
4. Finalise test on finger jointed timber	4.1 Communicate test results according to workplace procedures 4.2 Report sub-standard product test results, assist with identification of production problems and recommend corrective actions 4.3 Modify test sampling process in response to identified testing problems and production changes 4.4 Record and report testing outcomes

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret routine information from industry guides and standard references on testing techniques for finger jointed timber
Writing	<ul style="list-style-type: none"> Complete labels legibly and accurately with correct details of sample
Oral communication	<ul style="list-style-type: none"> Ask open and closed questions and use active listening techniques to clarify contents of work orders Provide oral reports on testing activities
Numeracy	<ul style="list-style-type: none"> Measure quantities and dimensions of samples Perform routine calculations and interpret numerical results of testing procedures

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPTMM4213 Test finger jointed timber	FWPCOT3208 Test strength of joints	Unit redeveloped to address a relevant skill or task that is required by industry	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPTMM4213 Test finger jointed timber

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has tested two samples of finger jointed timber for bond strength and adhesive durability and analysed the test results.

In performing this task, the individual has:

- complied with workplace health and safety and environmental protection practices and/or procedures, including use of personal protective equipment (PPE) and safe disposal of waste materials
- complied with legislation, standards and codes of practice relevant to testing finger jointed timber
- selected and calibrated test equipment for testing operations
- collected, labelled and prepared samples
- conducted the tests
- recorded and reported test results and analysed test results to assist with the identification of production problems
- recommended corrective actions, as required.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- key requirements of legislation, standards and codes of practice relevant to testing finger jointed timber
- types, purpose and procedure for finger jointed timber tests, including:
 - bond strength
 - adhesive durability
- finger jointing requirements for finger jointed timber product and their justification, including:

- shook requirements – moisture content, straight edges, square freshly cut ends, straight grain at join
- joint appearance
- glue bond durability, including influencing factors – adhesive storage, adhesive mixing, adhesive cure
- equipment for testing finger jointed timber product
- techniques and reasons for calibrating testing equipment for finger jointed timber product
- hazards associated with selection, labelling and physical testing of finger jointed product, including:
 - moving equipment
 - flying debris
 - rotating saw blades
- failures in finger jointed timber characteristics that are determined by test results, including:
 - glue failure
 - shallow wood fibre failure
 - wood fibre failure
 - breaking load (Modulus of Elasticity; Modulus of Rupture)
- problems associated with testing process, including:
 - calibration of test equipment
 - test accuracy
 - sample quality
 - faulty material
 - defects
- workplace procedures specific to sampling and testing finger jointed timber product, including:
 - health and safety, including isolation procedures, lock-outs, emergency stops, machine guarding and wearing of appropriate PPE
 - environmental protection, including disposing, recycling and reusing timber and other waste
 - use of testing equipment
 - sampling and testing processes
 - communication reporting lines
 - recording and reporting on test process and test results.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber product manufacturing plant or an environment that accurately represents workplace conditions

- resources, equipment and materials:
 - finger jointed timber
 - test equipment
 - PPE required for testing finger jointed timber
- specifications:
 - workplace health and safety and environmental protection policies and/or procedures applicable to finger jointed timber testing operations
 - workplace procedures for finger jointed timber testing operations
 - workplace procedures for calibration of testing equipment.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPTMM4214 Test laminated wood product

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to collect, prepare and test samples of laminated wood products. The unit includes interpreting test results for the identification of problems in production, and making necessary changes to processes.

The unit applies to individuals who are engaged in the production of laminated wood products.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Timber Manufactured Products (TMM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for testing laminated wood product	1.1 Determine job requirements from work order or instruction and, where required, seek clarification from appropriate personnel 1.2 Confirm workplace health and safety and environmental protection practices and/or procedures for the task, including use of personal

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>protective equipment</p> <p>1.3 Confirm legislation, standards and codes of practice relevant to testing laminated wood product</p> <p>1.4 Identify and assess hazards and take actions to mitigate risks related to testing operations</p> <p>1.5 Consult appropriate personnel to ensure that work is coordinated effectively with others in the workplace</p> <p>1.6 Select tools and equipment for testing operations, and check for serviceability according to workplace procedures</p> <p>1.7 Collect, label and prepare test samples according to workplace procedures</p>
2. Calibrate equipment for testing laminated wood product	<p>2.1 Set up equipment for testing laminated wood product according to workplace procedures and/or relevant Australian Standards</p> <p>2.2 Calibrate test equipment according to manufacturer instructions, workplace procedures and/or relevant Australian Standards</p> <p>2.3 Record calibration results according to workplace procedures</p>
3. Conduct test on laminated wood product and analyse test results	<p>3.1 Test sample according to workplace procedures and/or relevant Australian Standards</p> <p>3.2 Collate information on test results</p> <p>3.3 Analyse and record test results</p> <p>3.4 Store samples according to workplace procedures</p>
4. Finalise test	<p>4.1 Communicate test results according to workplace procedures</p> <p>4.2 Report sub-standard test results, assist with the identification of production problems and recommend corrective actions</p> <p>4.3 Modify test sampling process in response to identified problems and production changes</p> <p>4.4 Record and report testing outcomes</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret routine information from industry guides and standard references on testing techniques for laminated wood products
Writing	<ul style="list-style-type: none"> Complete labels legibly and accurately with correct details of sample
Oral communication	<ul style="list-style-type: none"> Ask open and closed questions and use active listening techniques to clarify contents of work orders Provide oral reports on testing activities
Numeracy	<ul style="list-style-type: none"> Measure quantities and dimensions of samples Perform routine calculations and interpret numerical results of testing procedures

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPTMM4214 Test laminated wood product	FWPTMM4204 Sample and test products to specifications	Unit redeveloped to address a relevant skill or task that is required by industry	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPTMM4214 Test laminated wood product

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has conducted two of the following tests on two samples of laminated wood product each:

- glue spread test
- shear test
- durability test.

In performing these tasks, the individual has:

- complied with workplace health and safety and environmental protection practices and/or procedures, including use of personal protective equipment (PPE) and safe disposal of waste materials
- complied with legislation, standards and codes of practice relevant to testing laminated wood product
- selected and calibrated equipment for testing operations
- collected, labelled and prepared samples
- conducted the tests
- recorded and reported test results
- analysed test results to assist with the identification of production problems
- recommended corrective actions, as required.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- key requirements of legislation, standards and codes of practice relevant to testing laminated wood product
- lamination requirements in the production of laminated timber products, including:

- lamination feedstock requirements – moisture content, dressing tolerance, grade, time since sawing or dressing, surface finish
- laminating requirements – glue storage, glue mix, glue spread, assembly time, clamp (press) time and pressure
- cure requirements – temperature, time, post-cure time
- influences on glue bond durability and strength
- glue spread requirements in laminated timber product processes, including:
 - effects of over and under glue spread on bond strength
 - frequency of glue spread tests
 - processes for conducting glue spread tests
 - glue spread rate is monitored and remedial action is taken
- test procedures and purpose for laminated timber product, including:
 - glue spread test
 - shear test
 - durability test
- failures in laminated timber product characteristics determined by test results, including:
 - glue failure
 - shallow wood fibre failure
 - wood fibre failure
 - sustainable load
 - breaking load – Modulus of Elasticity, Modulus of Rupture
- equipment for testing laminated wood product
- techniques and reasons for calibrating testing equipment for laminated wood product
- Australian Standards relevant to laminated wood products, including requirements for sampling and equipment set-up and calibration
- hazards associated with selection, labelling and physical testing of laminated wood product, including:
 - moving equipment
 - flying debris
 - rotating saw blades
- problems associated with testing process for laminated wood product, including:
 - calibration of test equipment
 - test accuracy
 - sample quality
 - faulty material
 - defects
- workplace procedures specific to sampling and testing laminated wood product, including:
 - health and safety, including isolation procedures, lock-outs, emergency stops, machine guarding and wearing of appropriate PPE
 - environmental protection, including disposing, recycling and reusing timber and other waste

- use of testing equipment
- sampling and testing processes
- communication reporting lines
- recording and reporting on test process and test results.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber product manufacturing plant or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - laminated wood products
 - test equipment
 - personal protective equipment required for testing laminated wood product
- specifications:
 - workplace health and safety and environmental protection policies and/or procedures applicable to laminated wood product testing operations
 - workplace procedures for laminated wood product testing operations
 - workplace procedures for calibration of testing equipment.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPTMM4215 Plan for and coordinate timber product assembly

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to manage the assembly of timber products. This involves planning assembly schedules, coordinating product assembly, evaluating production processes and identifying process improvements.

The unit applies to individuals who supervise product assembly in a wood products work environment.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Timber Manufactured Products (TMM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan for implementing timber product assembly operations	1.1 Review production orders, construction plans and workplace health and safety, environmental protection and emergency practices and/or procedures to plan assembly of timber products 1.2 Confirm legislation, standards and codes of practice relevant to

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>timber product assembly</p> <p>1.3 Identify and report hazards and use personal protective equipment according to workplace requirements and health and safety legislation to maintain safe work practices</p> <p>1.4 Identify requirements for pre-cut timber components, hardware componentry and jigs, check availability and monitor supply</p> <p>1.5 Plan and document timber product assembly schedules, and communicate to operators according to workplace procedures</p> <p>1.6 Explain construction plans and assembly techniques to operators</p>
2. Coordinate timber product assembly	<p>2.1 Assist operators to evaluate and resolve component and assembly problems</p> <p>2.2 Monitor equipment operation and assembly processes and assess effectiveness and ability to maintain a schedule</p> <p>2.3 Modify assembly process and schedules to ensure optimum performance, and communicate changes to operators</p> <p>2.4 Check completed products and direct to a designated area for storage or despatch and transportation</p> <p>2.5 Direct processes for rejecting and disposing of sub-standard assembled products according to workplace environmental protection practices and/or procedures</p> <p>2.6 Obtain production output details from operators, and complete and maintain operating logs and assembly records according to workplace procedures</p> <p>2.7 Investigate and record major processing problems and equipment faults, and resolve or report to appropriate personnel</p>
3. Evaluate timber product assembly performance	<p>3.1 Monitor assembly operations and output to determine process improvements</p> <p>3.2 Analyse systematic problems with construction plans, componentry and equipment for the potential to improve assembly operations</p> <p>3.3 Document recommended process improvements, and communicate to appropriate personnel according to workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Oral communication	<ul style="list-style-type: none"> Use appropriate vocabulary to communicate on technical and work team performance matters to ensure effective assembly operations
Numeracy	<ul style="list-style-type: none"> Complete calculations to determine material amounts required to satisfy production orders Interpret statistical data on production and quality Input numerical data into routine production records involving dimensions and quantities tallied against work orders

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPTMM4215 Plan for and coordinate timber product assembly	FWPCOT4203 Plan and coordinate product assembly	Updated unit title Minor edits to Elements, Performance Evidence, Knowledge Evidence and Assessment Conditions Updated Foundation Skills	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPTMM4215 Plan for and coordinate timber product assembly

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has planned and managed one production run for the assembly of a timber product selected from the following list according to production order, construction plan and workplace health and safety requirements:

- pallets
- crates
- trellises
- trusses
- frames
- stairs
- doors
- windows
- prefabricated timber building systems.

In performing this task, the individual has:

- determined, documented and communicated assembly schedules for the product assembly operation
- complied with legislation, standards and codes of practice relevant to timber product assembly
- assessed production output during the assembly operation for:
 - speed and efficiency of operation
 - quality finish
 - dimensional consistency
- monitored, assessed and modified schedules in response to changing circumstances
- completed operating logs and assembly records

- examined two systematic issues arising during assembly operation regarding processes, construction plans, componentry and/or equipment, and recommended actions for process improvements.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- health and safety hazards or risks related to assembling timber products as identified through risk assessments, manufacturer technical information, regulations and industry health and safety guides
- key requirements of legislation, standards and codes of practice relevant to timber product assembly
- workplace procedures specific to planning and coordinating timber product assembly, including:
 - health and safety, including the use of personal protective equipment (PPE) and emergency response
 - environmental protection practices for disposing, recycling and reusing timber
 - communication reporting lines for operator team members and self
 - documenting assembly schedules and reports
 - recording and reporting systematic equipment faults
- operational capacity of equipment used to assemble timber products
- typical flow of material supply in and out of the assembly area
- typical assembly sequences and range of techniques used to assemble timber products
- methods of determining timber product assembly schedules to:
 - maximise equipment and labour use
 - meet customer and production orders within deadlines
- methods used to:
 - assess timber product assembly processes in relation to complying with time and product quality parameters
 - diagnose and analyse systematic problems with construction plans, componentry and equipment
- format, content and use of:
 - construction plans
 - assembly schedules
 - operating logs and assembly records
 - process improvement reports.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber product manufacturing plant or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - tools, equipment and assembly hardware used to assemble timber products
 - PPE suitable for coordinating timber assembly production lines
 - pre-cut sections of timber
- specifications:
 - templates for recording timber product assembly issues and recommendations for improvements
 - production order for quantities and types of assembled timber products
 - construction plan with specifications for assembling timber products
 - workplace health and safety, emergency and environmental protection policies and/or procedures for planning and coordinating product assembly
- relationships:
 - work team to undertake product assembly.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPTMM4216 Plan for and supervise engineered wood product operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Application

This unit of competency describes the skills and knowledge required to plan, coordinate and evaluate the manufacture of engineered wood products, including plywood, laminated veneer lumber (LVL), particleboard, medium-density fibreboard (MDF), cross laminated timber (CLT), finger jointed product and glue laminated timber (GLT) production.

The unit applies to personnel responsible for planning and supervising the manufacturing of engineered wood products including plywood, LVL, particleboard, MDF, CLT and GLT.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Timber Manufactured Products (TMM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for production of engineered wood	1.1 Review production schedule and confirm production targets,

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
product	<p>specifications and performance indicators</p> <p>1.2 Confirm workplace health and safety, quality and environmental protection practices and procedures</p> <p>1.3 Identify hazards and associated risks, and implement corrective actions according to workplace procedures</p> <p>1.4 Confirm legislation, standards and codes of practice relevant to production of engineered wood products</p> <p>1.5 Inspect raw materials, identify possible production and quality implications, and communicate variations to production methods to team members</p> <p>1.6 Communicate production schedule, including production targets, specifications and performance indicators, to team members</p> <p>1.7 Maintain communication with team members to ensure production schedule and workplace health and safety, environmental protection and quality practices and/or procedures are met</p>
2. Supervise production of engineered wood product	<p>2.1 Monitor workflow and production, and check that targets, performance indicators and product specifications are met</p> <p>2.2 Assist team members to evaluate engineered wood product, identify faults and rectify or report production problems</p> <p>2.3 Monitor implementation of quality processes and chain of custody requirements</p> <p>2.4 Evaluate effectiveness of production processes at key points</p> <p>2.5 Modify production processes or schedules, as required, to ensure optimum performance</p> <p>2.6 Monitor implementation of processes for reuse, recycling or disposal of sub-standard engineered wood product</p> <p>2.7 Respond to breakdowns, disruptions to production and unplanned events according to workplace procedures</p> <p>2.8 Direct engineered wood product to storage or transfer for further processing</p>
3. Oversee maintenance and inventory management requirements	<p>3.1 Monitor implementation of routine and preventative maintenance and cleaning requirements</p> <p>3.2 Maintain product and material inventory levels to meet production and contingency requirements</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
4. Evaluate production of engineered wood product	4.1 Analyse data and observations on production, operations, faults and output to identify opportunities for process improvement 4.2 Report on production, health and safety, environment and quality metrics to appropriate personnel according to workplace procedures 4.3 Seek comments and feedback from team members to identify opportunities for process improvement 4.4 Analyse feasibility of potential process improvements 4.5 Document process improvements, and communicate to appropriate personnel according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret/analyse technical documents and workplace policies and procedures relevant to the production of engineered wood products
Writing	<ul style="list-style-type: none"> Complete workplace documents on routine and non-routine matters for a variety of audiences
Oral communication	<ul style="list-style-type: none"> Use appropriate vocabulary to communicate on technical and work team performance matters related to the production of engineered wood products
Numeracy	<ul style="list-style-type: none"> Analyse statistical data on production, quality, health and safety and environmental protection relevant to production of engineered wood products

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPTMM4216 Plan for and supervise	Not applicable	The unit has been created to address a skill or task	Newly created

engineered wood product operations		required by industry that is not covered by an existing unit	
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Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPTMM4216 Plan for and supervise engineered wood product operations

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 8.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has planned for and supervised two production cycles for one engineered wood product selected from:

- plywood
- laminated veneer lumber (LVL)
- particleboard
- medium-density fibreboard (MDF)
- cross laminated timber (CLT)
- glue laminated timber (GLT)
- finer jointed product.

In performing this task, the individual has:

- communicated effectively and coordinated personnel to follow planning, workplace health and safety and environmental protection practices and/or procedures and scheduling for engineered wood product production
- complied with legislation, standards and codes of practice relevant to production of engineered wood products
- monitored engineered wood product production outcomes and identified and rectified production and equipment problems and faults
- modified production methods and schedules for engineered wood product production
- monitored implementation of quality processes and chain of custody requirements
- recorded and reported production information, including output, quality and faults
- evaluated wood-based product production and suggested one process improvement.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- key requirements of legislation, standards and codes of practice relevant to production of engineered wood products
- hazards and associated risks with engineered wood product production process, and risk control strategies as identified through risk assessments, manufacturer technical information, regulations and industry health and safety guides
- workplace procedures, policies and site standards specific to planning and supervising production of engineered wood product, including:
 - health and safety, including personal protective equipment (PPE)
 - environmental protection, including safe disposal of waste material
 - quality assurance, including chain of custody requirements
 - communication channels and protocols to communicate with team members
 - recording and reporting information on production, quality, workplace health and safety and equipment faults
- types, characteristics, grades and uses of engineered wood product relevant to workplace environment
- stages and production processes used for engineered wood product
- types, uses and operation of plant, machinery and equipment used in production of engineered wood product
- methods for problem identification, including equipment failures at process stages, bottlenecks in production process and product variations, and resolution strategies
- process improvement for engineered wood product operations, including:
 - data
 - methods
 - participative approaches
 - communication.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in an engineered wood product manufacturing plant or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - engineered wood product processing plant and equipment
 - timber supplies
 - computers, keyboards, printers and software used to prepare planning and production documents
 - PPE relevant to engineered wood product operations

- specifications:
 - production schedule, quality and output data for engineered wood product from production facility
 - workplace procedures for engineered wood product production
 - workplace health and safety and environmental protection policies and/or procedures applicable to engineered wood product production
- relationships:
 - work team for communicating requirements related to engineered wood product operations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

AHCARB212 Operate and maintain stump grinding machines

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to operate motorised stump grinding machines to safely remove tree stumps.

The unit applies to individuals who operate stump grinders in a broad range of arboriculture contexts who undertake defined routine activities under supervision. They exercise limited autonomy within established and well known parameters, providing solutions to a limited range of predictable problems.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Arboriculture (ARB)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for stump removal operations	1.1 Confirm work instructions and stumps to be removed with supervisor 1.2 Assess the size and scale of stump grinding works 1.3 Identify and confirm location and depth of above and below ground services with supervisor

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.4 Confirm workplace health and safety hazards and controls from job safety analysis (JSA) with supervisor</p> <p>1.5 Confirm availability of first aid and emergency personnel, equipment and procedures</p> <p>1.6 Unload stump grinder from transport vehicle according to workplace and safety procedures</p>
2. Carry out stump grinder pre-operational and safety checks	<p>2.1 Check maintenance log for outstanding performance issues, and report incomplete maintenance to supervisor</p> <p>2.2 Conduct pre-start checks on stump grinder according to manufacturer instructions</p> <p>2.3 Check fluid levels and fill to manufacturer specifications</p> <p>2.4 Check safety guards are secure and in place</p> <p>2.5 Check safety switches are functioning correctly</p> <p>2.6 Check debris curtain is in working order according to manufacturer instructions</p>
3. Complete preparations for work	<p>3.1 Select, check and use personal protective equipment</p> <p>3.2 Assess stump and surrounds for impediments to grinding operations</p> <p>3.3 Implement workplace health, safety, site, environmental and traffic control measures</p>
4. Operate stump grinder	<p>4.1 Plan the grinding operation and position grinder according to site conditions and operator instructions</p> <p>4.2 Implement stump grinder start-up procedure</p> <p>4.3 Operate stump grinder to grind stump according to manufacturer and operator instructions</p> <p>4.4 Monitor cutting operation and adjust cutting rate and depth according to manufacturer and supervisor instructions</p> <p>4.5 Undertake corrective action when stump grinder performance or safe operation has been compromised</p> <p>4.6 Implement shutdown procedures following stump removal</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
5. Complete stump grinding operations	5.1 Dispose of waste according to work instructions and environmental procedures 5.2 Clean stump grinder and equipment according to workplace and biosecurity procedures 5.3 Perform operator maintenance according to manufacturer instructions 5.4 Report and record stump grinder usage, maintenance and repair requirements according to repair and maintenance procedures 5.5 Load and secure stump grinder onto transport vehicle according to workplace and safety procedures, and regulatory requirements 5.6 Maintain records and report stump grinding outcomes according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret textual information from maintenance logs, operating instructions and policies to identify relevant and key information for preparing and operating machinery safely
Writing	<ul style="list-style-type: none"> Complete stump grinder operation records using clear language and industry terminology to ensure clarity of meaning
Numeracy	<ul style="list-style-type: none"> Perform basic calculations to determine fuel mixtures and machine fluid level and volumes

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCARB212 Operate and maintain	AHCARB206 Operate and maintain	Prerequisite units removed	Equivalent

stump grinding machines	stump grinding machines	Performance criteria clarified Foundation skills added Assessment requirements updated	
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Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCARB212 Operate and maintain stump grinding machines

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has safely operated a stump grinding machine to remove at least one stump no less than 60cm in diameter, including:

- unloaded and loaded the grinder on a transport vehicle
- carried out set-up and pre-operational and safety checks
- prepared the site ready for stump grinding work
- cleaned, sharpened and maintained the stump grinder.

There must also be evidence that the individual has:

- confirmed work instructions and stumps to be removed, and assessed the size and scale of the works
- confirmed hazards and controls from job safety analysis (JSA) including:
 - located services
 - selected, checked and used appropriate personal protective equipment
 - confirmed the availability of first aid and emergency equipment, personnel and procedures
 - implemented workplace health, safety, environmental and traffic control measures
- reviewed the maintenance log for outstanding performance issues, and reported inconsistencies
- assessed stump surrounds for impediments to stump grinding operations and planned and positioned stump grinding machine according to site conditions and operating procedures
- implemented start-up procedure and operated stump grinder including monitored ongoing performance and undertook adjustments and corrective action where performance was lacking
- shut down machine according to operator instructions and cleaned stump grinder disposing of waste material according to environmental and biosecurity procedures
- maintained records and reported grinding operations according to workplace procedures.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- site hazards, risk assessment and documenting controls in JSA, including:
 - control measures for workplace health, safety, site, environmental and traffic control
 - personal protective equipment
 - first aid kits and access
 - emergency procedures
 - methods and purpose for locating above and below ground services
 - exclusion zones, barriers and fencing
- pre-operational checks of stump grinders, including:
 - maintenance logs and their purpose
 - belts and pulleys, wear and replacement
 - cutter head and teeth adjustments and sharpening
 - tyre pressure
 - oil and fluid levels
 - preparing and adding fuel
 - hydraulic hoses
 - brakes
 - engine types and fuels
- safety checks of stump grinders, including:
 - guards for belt, power take-off (PTO) and grinder head
 - kill switch
 - dead man
 - debris curtain
- operation of stump grinders, including:
 - impediments to stump grinding operations
 - cutter head engagement and disengagement
 - positioning of stump grinders and operator
 - methods for determining spread and depth of cut
 - engine speed (rpm)
 - common faults, their signs and symptoms
- environmental implications of stump grinding operations, including methods of collecting waste material and disposal and recycling
- basic maintenance of stump grinding machines, including:
 - sharpening teeth
 - teeth replacement
 - belt replacement
 - records of operator usage in log record

- methods of maintaining records for maintenance and replacement items.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - access to stumps ready for grinding
- resources, equipment and materials:
 - stump grinder
 - tooth sharpening equipment
 - tools and equipment for conducting basic maintenance practices
 - cutter teeth
 - fuel and spill kit
 - personal protective equipment
 - first aid, emergency and traffic management kit
- specifications:
 - workplace procedures for stump grinding
 - manufacturer instructions for safe operation, cleaning and storage of stump grinding equipment
 - arboriculture hygiene and biosecurity standards.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards. In particular, assessors must have:

- arboriculture vocational competencies at least to the level being assessed
- current arboriculture industry skills directly relevant to the unit of competency being assessed.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

AHCARB318 Undertake aerial rescue

Modification History

Release	Comments
Release 2	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 7.0.
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to perform an aerial rescue where an injured or trapped climber is safely brought to ground from the tree. It is likely to be undertaken in an emergency situation.

The unit applies to individuals who work in arboriculture under broad direction and take responsibility for their own work. They use discretion and judgement in the selection, allocation and use of available resources and for solving problems.

The arboriculture industry requires that tree rescue work is undertaken according to preferred industry practices (as outlined in the Companion Volume).

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

The prerequisite units of competency for this unit are:

- HLTAID011 Provide First Aid
- AHCARB319 Use arborist climbing techniques.

Unit Sector

Arboriculture (ARB)

Elements and Performance Criteria

Elements	Performance Criteria
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<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan for aerial rescue	1.1 Confirm emergency communication system is working 1.2 Confirm emergency services contact numbers are documented 1.3 Select, prepare and check first aid equipment and rescue kit 1.4 Position rescue and first aid equipment for easy access 1.5 Clarify own role in rescue situations 1.6 Confirm first aid, rescue personnel and equipment with work team prior to undertaking rescue 1.7 Select, check and use personal protective equipment 1.8 Communicate with work team during operations using agreed communication method for the site and activity being undertaken
2. Assess and respond to an aerial emergency situation	2.1 Follow emergency response protocol according to workplace and industry procedures 2.2 Stop all work activity and ensure other workers are aware of the incident 2.3 Attempt communication with casualty 2.4 Activate emergency plan and request assistance from work team and public in accordance with rescue plan 2.5 Obtain emergency assistance according to rescue plan 2.6 Inspect site and tree for hazards associated with rescue, assess risks and implement controls 2.7 Assess if rescue can be conducted safely within work team capability 2.8 Seek assistance from emergency rescue services when safe rescue is not possible
3. Access tree to undertake rescue	3.1 Select low-risk access methods to access tree and undertake rescue 3.2 Maintain inspection of tree for above-ground hazards during ascent and throughout the rescue 3.3 Maintain communication with casualty and ground crew 3.4 Select and install suitable anchor points before reaching casualty 3.5 Install redirects to ensure good rope angle when reaching casualty
4. Assess casualty condition and system integrity	4.1 Ensure rescuer is secure before approaching casualty 4.2 Assess the security of casualty attachment in tree and secure if deemed unstable

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>4.3 Assess seriousness of condition of casualty according to first aid procedures and risk assessment</p> <p>4.4 Assess integrity of casualty climbing system to determine its suitability for lowering the casualty</p> <p>4.5 Administer first aid above ground according to first aid procedures and risk assessment</p> <p>4.6 Apply first aid protocols for casualties with possible neck or spinal injuries and await expert medical attention</p> <p>4.7 Maintain communications with ground crew</p>
5. Lower casualty to ground	<p>5.1 Inform casualty of lowering procedure</p> <p>5.2 Prepare casualty for descent in accordance with first aid, rescue plan and risk assessments</p> <p>5.3 Select and implement rescue technique relative to rescue and emergency situation and casualty condition</p> <p>5.4 Descend tree safely in a controlled manner</p> <p>5.5 Lower casualty safely to ground with support of ground crew according to emergency conditions</p>
6. Complete rescue operations	<p>6.1 Administer first aid on ground according to casualty condition until emergency services arrive</p> <p>6.2 Transfer responsibility of casualty to emergency services on their arrival</p> <p>6.3 Isolate equipment involved in incident for potential investigation and prevent reuse until checked</p> <p>6.4 Complete incident report and notify affected parties according to organisational procedures and regulatory requirements</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description

Skill	Description
Writing	<ul style="list-style-type: none"> Accurately record and complete incident reports and workplace records
Oral communication	<ul style="list-style-type: none"> Explain detailed information to emergency services and rescue team Communicate effectively with casualty and with other crew members involved in rescue
Get the work done	<ul style="list-style-type: none"> Accept responsibility and ownership for conducting the rescue, and make decisions on rescue parameters and coordination of others

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCARB318 Undertake aerial rescue Release 2	AHCARB318 Undertake aerial rescue Release 1	Unit updated to replace superseded first aid unit, as approved by the AISC in consultation with ASQA	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCARB318 Undertake aerial rescue

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has conducted an aerial rescue for each of the following scenarios in a tree that is a minimum of 5 metres in height:

- a pole top rescue, where the casualty must be safely lowered to the ground without the assistance of other crew members and:
 - is attached within 0.5 metres of the top of the pole
 - is at least 5 metres from the ground
- a pick-off rescue without the assistance of other crew members in which the casualty must:
 - be lifted out of their compromised or non-functioning climbing system
 - be transferred to be lowered down on the rescuer's system or on another climbing system
 - be at least 8 metres from the ground
 - be lifted at least 1 metre prior to beginning descent
- a rescue where:
 - the casualty is away from the main trunk of the tree, toward the end of a branch or in a different stem from the primary anchor point
 - the rope angle between the casualty and the primary anchor point must be at least 30°
 - the rescuer must either control the movement of the casualty back under the primary anchor point, or redirect the casualty's line to bring the casualty directly to the ground.

There must also be evidence that the individual has:

- confirmed resources for emergency rescue, including:
 - communications for emergency services and work team
 - first aid equipment, personnel, equipment and procedures
 - emergency rescue and first aid equipment, protocols and procedures
- conducted a pre assessment of the rescue including:

- attempted communication with casualty
- assessed the tree and situation for hazards and risks and determined rescue plan
- sought assistance from emergency services where safe rescue could not be performed
- used tree climbing equipment to carry out rescue, including:
 - accessed tree safely
 - selected and installed anchor points
 - installed redirects to achieve safe rope angle according to rescue requirements
 - secured rescuer and casualty
- demonstrated the procedure for securing and assessing a severe casualty situation, including:
 - assessed casualty injuries
 - administered first aid above ground according to casualty condition
 - arranged for emergency services
- demonstrated the procedure for rescuing a casualty, including:
 - informed and prepared casualty descent
 - descended tree safely in a controlled manner
 - applied first aid on ground
- removed equipment used in rescue in a controlled manner and isolated and secured equipment for potential investigation
- cleaned and stored all equipment
- updated and maintained records of aerial rescue according to workplace and regulatory requirements.

Aerial rescue is required to be performed according to preferred industry practices (as outlined in the Companion Volume).

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- preferred industry practices (as outlined in the Companion Volume) for aerial rescue
- emergency procedures for aerial rescues, including:
 - planning for the event of an emergency
 - dealing with emergencies
 - emergency protocol, including stop work, activate rescue plan, inspect site for tree hazards, delegate crew roles, access tree, install anchor points, reach casualty, lower casualty, and transfer to emergency services
 - accessing trees in emergency situations
 - accessing and utilising emergency services
- assessing site-specific safety in emergency situations, including:
 - methods for identifying risks
 - risk control measures

- safety and procedures when conducting a rescue near overhead power lines, including:
 - basics of electrocution
 - power line types and insulation
 - approach distances and safety zones, voltage and arcing
 - tools, equipment, personnel and power line contact
 - personal protective equipment
- administering first aid in an aerial rescue environment, including:
 - first aid procedures
 - contents and use of a first aid kit
 - first aid in an aerial environment
 - assessing neck and back injuries and procedures
 - first aid on the ground following rescue
 - importance of communication and reassurance of casualty
- communications in a rescue situation, including:
 - emergency services communication systems
 - emergency services contact numbers
 - work team communication methods
- tools, equipment and other resources required for aerial rescue, including:
 - appropriate placement of rescue equipment
 - components of and use of rescue kits
 - rescue personnel, equipment and rescue plan procedures
- controlling risk to rescuer, victim and others during an aerial rescue
- climbing and rigging systems for aerial rescue, including:
 - pole top rescue
 - pick-off rescue
 - lifting moving or transferring casualties to alternate climbing systems
 - ropes, knots and equipment for rescue climbing and rigging systems
 - lifting and lowering systems
 - cleaning, storing and maintaining safety kits and equipment
- workplace health and safety reporting procedures for accidents, incidents and rescue operations, including:
 - site and equipment security for investigations
 - mandatory records
 - workplace records
 - legislative responsibilities.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - the trees in which the types of rescue required for assessment can be demonstrated as stipulated in the performance evidence
- resources, equipment and materials:
 - full arborist climbing kit
 - emergency communications equipment
 - personal protective equipment
 - first aid and emergency response equipment
- specifications:
 - workplace and manufacturer instructions for safe operation, cleaning and storing of rescue equipment
 - preferred industry practices (as outlined in the Companion Volume) for aerial rescue
- relationships:
 - work team
 - worker or rescue dummy as stipulated in the performance evidence.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards. In particular, assessors must have: In particular, assessors must have:

- arboriculture vocational competencies at least to the level being assessed
- current arboriculture industry skills directly relevant to the unit of competency being assessed.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

AHCARB319 Use arborist climbing techniques

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 5.0.

Application

This unit of competency describes the skills and knowledge required to climb trees with ropes, harnesses and specialist equipment using climbing techniques for the purpose of mobility in the canopy of trees to acquire a safe work position.

The unit applies to individuals who work in arboriculture under broad direction and take responsibility for their own work. They use discretion and judgement in the selection, allocation and use of available resources and for solving problems.

The arboriculture industry requires that all climbing work is undertaken according to preferred industry practices (as outlined in the Companion Volume).

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Arboriculture (ARB)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare site and inspect equipment	1.1 Confirm access to site and scope of works according to workplace procedures 1.2 Undertake a site-specific job safety analysis (JSA), record and

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>implement control measures according to workplace safety procedures</p> <p>1.3 Confirm availability of first aid and rescue personnel, equipment and procedures</p> <p>1.4 Conduct pre-operational preparations and safety checks, on ropes, harnesses, tools and equipment</p> <p>1.5 Select, check and use personal protective equipment</p>
2. Prepare to access tree	<p>2.1 Inspect tree to determine efficient safe access route and method through discussion with work team</p> <p>2.2 Select and prepare climbing equipment according to manufacturer instructions, work health and safety regulations and industry standards</p> <p>2.3 Configure climbing equipment components to form functional tree climbing system appropriate to the access method selected</p> <p>2.4 Tie, dress, set and finish climbing knots and hitches according to climbing system requirements</p> <p>2.5 Sharpen, prepare and fit climbing spurs and gaffs for dismantling work</p> <p>2.6 Conduct pre-climb checks of configured systems to ensure compatibility, safety and function according to climbing system, industry standards and manufacturer instructions</p>
3. Access and work position within tree	<p>3.1 Select suitable anchor points according to load bearing and access requirements</p> <p>3.2 Install low-risk anchor points using throw lines</p> <p>3.3 Inspect and test remotely installed anchor points are secure before use</p> <p>3.4 Ascend tree and access work positions within tree crown using climbing systems appropriate for work task and tree structure</p> <p>3.5 Configure and use components within functional climbing systems for ascending trees and work positioning</p> <p>3.6 Access work positions within tree crown by using climbing techniques for both pruning and dismantling work tasks</p> <p>3.7 Communicate with work team during operations according to work site and environmental conditions using methods agreed with work team</p> <p>3.8 Observe and maintain safe clearance from hazards and climbing and rigging equipment</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	3.9 Maintain awareness and clearances for avoiding electrical power lines according to workplace safety procedures
4. Descend from tree	4.1 Descend tree using climbing equipment in a controlled manner 4.2 Remove all climbing equipment safely in a controlled manner according to manufacturer instructions 4.3 Inspect, clean, maintain and store climbing and safety equipment according to manufacturer instructions

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Writing	<ul style="list-style-type: none"> Accurately complete organisational documents, including job safety analysis and records

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCARB319 Use arborist climbing techniques	AHCARB307 Undertake advanced tree climbing	Title changed Prerequisite units removed Elements and performance criteria clarified Foundation skills added Assessment requirements updated	Equivalent
AHCARB319 User arborist climbing techniques	AHCARB311 Tie, dress, set and finish arborist knots	Some content is covered in this redesigned unit	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCARB319 Use arborist climbing techniques

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 5.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence the individual has safely and efficiently climbed a tree of at least 18 metres in height and at least 10 metres in canopy spread using rope climbing equipment, without the aid of climbing spurs. The individual must have:

- reached at least five different designated outer extremities of the tree structure
- selected and performed a suitable, safe and efficient access method consistent with the tree structure and the designated working positions
- selected and used suitable, safe and efficient work positioning methods to reach each target, including the use of multiple lines, redirects and advanced climbing methods
- descended the tree safely and retrieved all climbing equipment.

The timeframe allowed to reach the designated targets must meet industry expectations for the size and shape of the tree being climbed.

There must be evidence the individual has safely and efficiently climbed to a height of 15 metres above the ground using climbing spurs in a tree to be removed. The tree must have at least five metres of clear trunk below the lowest branch. The individual must:

- ascend and descend a trunk by spur climbing the trunk without setting a line at the top
- transition around obstacles safely
- perform a self-arrest
- use branch walking techniques to access designated working positions
- descend the tree safely and retrieve all climbing equipment.

The timeframe allowed to reach the designated targets must meet industry expectations for the size and shape of the tree climbed.

There must also be evidence that the individual has:

- installed a throw line in a tree in a predetermined union representing a target of no larger than 600 mm in diameter and at least 20 metres above the throwing position within a timeframe of 15 minutes

- selected, checked and configured climbing equipment components to form safe and functional climbing systems appropriate for climbing tasks
- identified unsafe equipment, climbing system configuration and climbing techniques.

There must also be evidence that the individual has prepared to conduct climbing work, including:

- undertaken a job safety analysis (JSA) for the specific site and work activities and implemented control measures including:
 - confirmed availability of first aid and rescue personnel, equipment and procedures
 - conducted pre-operational and other safety checks, on ropes, harnesses, tools and equipment
 - selected and used personal protective equipment (PPE) and safety equipment
- performed a pre-climb inspection and identified climbing hazards and controlled risks, including:
 - correctly identified tree species
 - assessed tree for stability and tree defects
 - adjusted climbing plan and implemented control measures
- selected, prepared and fitted climbing equipment.

There must also be evidence that the individual has:

- selected an access system and method that is safe, efficient and suitable for the tree structure and work task
- installed climbing and access ropes to suitable tree anchor points within the tree structure, and used throwlines to install:
 - anchor points near the top of the tree
 - a stationary rope technique (SRT) canopy anchor
 - a SRT basal anchor
 - a moving rope technique (MRT) anchor point including the installation of a cambium saver
- safely ascended and descended tree, transitioned between points of attachment and used work positioning methods, including:
 - used MRT and trunk-walking, foot ascenders or footlocking
 - used SRT
 - installed a second point of attachment when in a working position
 - used multiple lines for climbing and tree operations for both MRT and SRT
 - used natural and artificial redirects
 - used climbing spurs for work positioning
- safely retrieving climbing equipment according to industry standards and manufacturer instructions
- tied, dressed, set and finished the following 19 climbing knots and hitches for rigging and climbing applications according to industry standards:
 - scaffold knot
 - double fisherman's bend/prusik loop

- girth hitch
- prusik hitch (English prusik)
- Blake's hitch
- marlinspike hitch
- clove hitch
- double-overhand stopper knot
- sheet bend
- slippery sheet bend
- bowline knot (with a tie-off or stopper knot)
- running bowline knot
- bowline on a bight
- alpine butterfly
- klemheist
- figure-8 loop
- munter hitch
- Flemish bend
- Zeppelin bend
- tied at least one of the following advanced climbing hitches:
 - Distel hitch
 - Valdôtain tresse (French prusik)
 - Schwabisch hitch
 - Knut
- communicated with work team during operations using agreed communication procedures.

All arborist tree climbing work is required to be performed according to preferred industry practices (as outlined in the Companion Volume).

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- preferred industry practices (as outlined in the Companion Volume) for arborist tree climbing work
- assessing and selecting methods for climbing trees and methods of tree access, including:
 - selecting a climb plan or work strategy to achieve a scope of works
 - selecting climbing systems that are safe, simple, efficient and ergonomic
 - identifying tree hazards and selecting low-risk work methods
- assessing work health, safety, site, environmental and traffic control measures, including:
 - completing JSAs for site-specific risks
 - purpose of first aid and rescue personnel, equipment and procedures

- pre-operational and safety checks, on ropes, harnesses, tools and equipment
- PPE used when climbing
- arborist climbing equipment, use and maintenance, including:
 - ropes and their materials, construction and characteristics
 - uses of climbing ropes and lanyards
 - types of climbing ropes
 - harnesses
 - triple locking carabiners and other connectors
 - climbing hardware, including ascenders, descenders, mechanical friction devices, false crotches and artificial redirects
 - climbing spurs and gaffs, their preparation and use for climbing trees
 - maintaining separation between spurs, rigging equipment and ropes
- purpose, function, selection, tying, dressing, setting and finishing of arborist knots used for climbing techniques
- safety when climbing trees, including:
 - safe working limits, ropes and equipment
 - defects in ropes, tools and equipment
 - controlled descent operations
 - controlled removal of access equipment
 - forces applied to anchor points during access and work positioning using MRT and SRT
 - forces applied at primary anchor points and at redirects
- hazards to avoid when climbing within the tree canopy, including:
 - power line safe approach distances and vegetation clearances
 - tree structural defects
 - animals or insects
 - hangers or suspended loads
 - deciding on low-risk access routes
- limits, advantages and disadvantages of friction hitches, including:
 - Blake's hitch
 - Prusik hitch (English prusik)
 - klemheist
 - specialised variations, including Distel hitch, Valdôtain tresse (French prusik), Schwabisch hitch, Knut
- selecting appropriate knots suited for rigging or climbing applications and equipment, including:
 - loss of rope strength
 - appropriate knot for application
 - requirements for secondary knots and stopper knots
- arborist knots, including:
 - knot type and tying procedure

- dressing
- setting
- finishing
- communications strategies used in arboriculture, including:
 - voice
 - hand
 - whistle signals
 - electronic communications
- assessing tree access routes, techniques and equipment and evaluating risk, including:
 - moving rope technique (MRT) and stationary rope technique (SRT)
 - use of climbing spikes of various lengths
 - transitions between points of attachment
 - natural and artificial redirects
 - use of multiple lines to access trees and tree parts
 - low-risk anchor points
- inspecting, cleaning, maintaining and storing climbing equipment.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - trees as stipulated in performance evidence
- resources, equipment and materials:
 - full arborists climbing kit
 - climbing spikes
 - communications equipment agreed by work crew
 - PPE
 - first aid and emergency response equipment
- specifications:
 - workplace and manufacturer instructions for safe operation, cleaning and storage of the equipment specified in the assessment conditions
 - preferred industry practices (as outlined in the Companion Volume) for arborist tree climbing work
- relationships:
 - work team.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards. In particular, assessors must have:

- arboriculture vocational competencies at least to the level being assessed

- current arboriculture industry skills directly relevant to the unit of competency being assessed.

Links

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AHC BIO204 Follow site biosecurity procedures

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to follow the workplace biosecurity procedures for accessing and leaving a quarantine site to reduce and contain the transfer of diseases or pests.

The unit applies to individuals who work under general supervision and exercise limited autonomy. They undertake defined activities and work in a structured context.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Biosecurity (BIO)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to enter biosecurity site	1.1 Confirm biosecurity procedures and protocols with supervisor 1.2 Ensure all vehicles are decontaminated before entering and leaving the biosecurity area according to biosecurity procedures 1.3 Identify and report contact with potential biosecurity risk 1.4 Perform personal decontamination before entering biosecurity area according to workplace procedures

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	1.5 Store and isolate personal fomites from biosecurity area according to workplace and biosecurity procedures
2. Prepare to work in biosecurity site	<p>2.1 Identify workplace health and safety hazards and report to supervisor</p> <p>2.2 Select, check and apply personal protective equipment</p> <p>2.3 Apply personal hygiene procedures while working in biosecurity or quarantine area environments according to workplace procedures</p> <p>2.4 Check disinfectant levels and report irregularities to supervisor</p>
3. Work in biosecurity site	<p>3.1 Handle and store chemicals and medications according to workplace procedures</p> <p>3.2 Store and label production materials and products to minimise risk according to biosecurity procedures</p> <p>3.3 Identify and report abnormal conditions of produce/stock to supervisor</p> <p>3.4 Identify and report breaches of biosecurity procedures to supervisor</p> <p>3.5 Dispose of all waste according to workplace biosecurity procedures</p> <p>3.6 Dispose of all contaminated produce according to supervisor instructions</p> <p>3.7 Maintain records for quarantine activities according to workplace procedures</p> <p>3.8 Perform personal decontamination before exiting biosecurity or quarantine area according to workplace procedures</p>
4. Assist in maintaining site biosecurity procedures	<p>4.1 Follow visitor quarantine procedures</p> <p>4.2 Check visitor sign in, sign out and hygiene procedures are observed according to workplace procedures</p> <p>4.3 Ensure quarantine facilities are secured according to workplace security procedures</p> <p>4.4 Maintain security of boundaries and fencing according to supervisor's instructions</p> <p>4.5 Check deliveries to site comply with delivery procedures and biosecurity protocols</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
5. Respond to infringements of site biosecurity procedures	5.1 Report issues and infringements of site quarantine procedures to supervisor 5.2 Secure site where quarantine infringement occurs according to supervisor instructions 5.3 Apply sanitation procedures to affected areas according to workplace procedures and supervisor instructions 5.4 Isolate potentially contaminated produce, stock or materials and monitor for evidence of contamination 5.5 Treat or dispose of all contaminated produce, stock and materials according to workplace quarantine procedures 5.6 Maintain records of quarantine infringements according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Writing	<ul style="list-style-type: none"> Update records using familiar text types and simple vocabulary, grammatical structures and conventions
Oral Communication	<ul style="list-style-type: none"> Communicate with visitors using everyday language to provide biosecurity information and directions in familiar spoken contexts

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHC BIO204 Follow site biosecurity procedures	AHC BIO202 Follow site quarantine procedures	Changed unit code and title Changes to Application, Elements and Performance Criteria for clarity	Equivalent

Code and title current version	Code and title previous version	Comments	Equivalence status
		Updated Performance Evidence, Knowledge Evidence and Assessment Conditions	

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHC BIO204 Follow site biosecurity procedures

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has followed biosecurity procedures for at least one biosecure site and has:

- met site security entry and exit requirements for vehicles, personal fomites and personal hygiene
- handled and stored production materials and products according to procedures and biosecurity protocols
- identified and reported abnormal conditions and infringements of biosecurity procedures and workplace health and safety hazards to supervisor
- disposed of waste and contaminated produce and products according to biosecurity and quarantine procedures
- maintained records for quarantine activities and infringements
- maintained security of biosecurity or quarantine site and reported infringements
- checked visitors for compliance with workplace biosecurity procedures
- controlled site deliveries according to biosecurity procedures
- applied sanitation procedures on contaminated quarantine sites
- isolated and monitored produce, stock or materials suspected of being contaminated according to supervisor instructions.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- site quarantine procedures and biosecurity protocols for:
 - disposal of waste products, diseased livestock, unwanted biological material, damaged or infected plant stock, contaminated stock or contaminated material
 - directing visitors at the quarantine site

- reporting diseases and pest infestations, workplace health and safety hazards
- handling and storing production materials and products, including chemicals, medications, feed mixes, soil, growing media
- controlling entry of deliveries to a quarantine site
- isolating livestock and monitoring livestock
- cleaning and disinfecting quarantine area
- maintaining security for the quarantine site
- recording information about own work and any quarantine breaches
- personal infection control and decontamination procedures while working in a biosecure site, including:
 - shower in and shower out environments
 - removal of street clothing and replacement with decontaminated work clothing
 - decontaminating hands and exposed skin during work
 - purpose and use of hair nets, coveralls, booties, gloves
 - footbaths and disinfectant levels
- fomites - inanimate objects that can cause infections:
 - clothing, boots and hats
 - cars and trucks
 - utensils and hand tools
 - furniture
 - work machinery
- security procedures for biosecurity:
 - fences and boundaries
 - entrance access locks
 - site visitors checking and communicating their responsibilities
- external deliveries and protocols, including:
 - vehicle decontamination
 - unloading of produce and stock
 - receipt and holding or storage of stock and supplies are followed
- personal protective equipment appropriate to site quarantine procedures and biosecurity protocols
- workplace health and safety hazards and controls
- methods for cleaning and disinfecting quarantine areas
- control area and restricted area
- biosecurity protocols and how they apply to the work site, industry and in the context of a work role.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated on a site subject to quarantine and biosecurity conditions or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - products, stock and materials relevant to the industry sector
 - tools and equipment required to secure biosecurity site
 - personal protective safety equipment
 - sanitation materials and equipment specific to site
- specifications:
 - specific workplace procedures and processes for maintaining a biosecure environment
 - access to safety data sheets for treatments, chemicals and medications
 - workplace instructions
- relationships:
 - visitors
 - supervisor.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

AHC BIO303 Apply biosecurity measures

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to interpret and apply control measures in a biosecurity plan to protect a site from the entry and spread of biosecurity threats.

The unit applies to individuals who work under broad direction and take responsibility for their own work. They use discretion and judgement in the selection, allocation and use of available resources.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Biosecurity (BIO)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Identify biosecurity threats and determine control measures for site	1.1 Access and interpret site biosecurity plan and information 1.2 Identify biosecurity hazards and threats for the site 1.3 Identify control measures to minimise the risk of identified biosecurity threats 1.4 Determine responsibilities for applying control measures in regular

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	work routines and confirm with supervisor
2. Apply biosecurity control measures to site activities	2.1 Apply control measures identified in site biosecurity plan for all activities according to workplace procedures 2.2 Incorporate the site control measures into work routines seeking clarification from supervisor according to workplace procedures
3. Monitor biosecurity procedures	3.1 Monitor effectiveness of control measures 3.2 Monitor work duties of site personnel to ensure biosecurity control measures are applied appropriately 3.3 Report issues and concerns for biosecurity according to workplace procedures 3.4 Maintain currency in biosecurity measures applicable to workplace 3.5 Record inputs and outputs for traceability of activity according to workplace procedures and legislative requirements

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Learning	<ul style="list-style-type: none"> Apply a range of learning strategies in structured and familiar contexts to maintain currency in biosecurity
Reading	<ul style="list-style-type: none"> Analyse and consolidate information and data from a range of sources which apply to biosecurity measures
Writing	<ul style="list-style-type: none"> Accurately complete workplace and regulatory biosecurity records using clear and industry relevant terminology
Oral Communication	<ul style="list-style-type: none"> Effectively participate in verbal exchanges including active listening and questioning and reading of verbal and non-verbal signals to convey and clarify information

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHC BIO303 Apply biosecurity measures	AHC BIO305 Apply biosecurity measures	Changed unit code Minor changes to Performance Criteria to be inclusive of non-farm environments Updated Performance Evidence and Knowledge Evidence	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHC BIO303 Apply biosecurity measures

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit. There must be evidence that on at least one occasion the individual has applied biosecurity measures, including:

- located and interpreted site biosecurity plans and information to inform control measures
- identified biosecurity hazards and threats for the site and determined control measures
- determined responsibilities for applying control measures
- incorporated and applied biosecurity control measures into work routines according to the biosecurity plan
- maintained records for traceability of input and output data
- monitored control measures for effectiveness
- monitored workplace personnel for compliance with biosecurity control measures
- reported biosecurity issues and concerns according to procedures
- maintained currency in biosecurity.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- principles and practices of biosecurity on different sites, including:
 - production agriculture
 - amenity and production horticulture
 - conservations and land management including the natural landscape
- sources of biosecurity information, including:
 - government and industry websites
 - technical and research papers
 - journals
 - training
 - on farm resources, standard operating procedures, mandatory documentation

- biosecurity plans and their function
- biosecurity threats, including:
 - vertebrate pests
 - plants
 - diseases
 - invertebrate pests
- risk assessment principles, standards and regulations for biosecurity
- control measures to minimise the threats entering or spreading into, or from, the site, including:
 - inputs
 - outputs
 - movement of people
 - movement of animals
 - vehicles and equipment
 - production practices
 - feral and wild animals, pests and weeds
- record keeping for traceability, both trace back and trace forward, of inputs and outputs
- processes for monitoring effectiveness of control measures
- process for reporting biosecurity concerns and issues.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated on a site that has exposure to potential biosecurity threats or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - digital technology and websites to access current biosecurity information
 - tools and equipment required to implement control measures
 - recording system relevant to biosecurity
- specifications:
 - workplace biosecurity plans, procedures, records,
 - workplace instructions, job specifications or work routines
 - regulations, legislation, codes of practice relevant to biosecurity
- relationships:
 - supervisor.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

AHCCHM101 Follow basic chemical safety rules

Modification History

Release	Comments
Release 2	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 3.0.
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 1.0.

Application

This unit of competency describes the skills and knowledge required to follow instructions and direction for safe handling, storage and use of chemicals.

The unit applies to individuals who undertake a range of defined routine activities alongside a supervisor in most situations. They exercise limited autonomy within established and well-known parameters and identify and seek help for simple problems.

No occupational licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Chemicals (CHM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to work with chemicals	1.1 Confirm the activity to be undertaken with supervisor 1.2 Confirm tools and equipment to be used with supervisor 1.3 Use appropriate personal protective equipment (PPE) and ensure

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	correct fit as directed by supervisor 1.4 Identify functions of chemicals in the workplace
2. Identify risks associated with chemicals	2.1 Identify and interpret chemical labels, safety signs, symbols and safety data sheets according to supervisors' instructions 2.2 Identify health and safety hazards and risks in the workplace and report to supervisor 2.3 Control risks as directed
3. Follow chemical handling and storage rules	3.1 Identify and locate chemical store 3.2 Interpret and follow safe chemical handling, transport, and storage according to product label and supervisor instructions 3.3 Observe instructions for maintenance and storage of PPE and application equipment 3.4 Follow safety rules when working in areas where chemicals are stored 3.5 Identify emergency procedures to follow in the event of an accident or spillage 3.6 Record information as directed by supervisor

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret chemical labels, instructions and information
Oral Communication	<ul style="list-style-type: none"> Use clear language and concepts, tone and pace appropriate when communicating with supervisor
Navigate the world of work	<ul style="list-style-type: none"> Recognises organisational expectations and follows explicit instructions, protocols and procedures when working with chemicals
Get the work done	<ul style="list-style-type: none"> Follow clearly defined instructions and sequencing, and monitors own progress for the task, seeks assistance when necessary

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCCHM101 Follow basic chemical safety rules Release 2	AHCCHM101 Follow basic chemical safety rules Release 1	Minor changes to Performance Criteria for clarity Updated Performance Evidence and Knowledge Evidence	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCCHM101 Follow basic chemical safety rules

Modification History

Release	Comments
Release 2	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 3.0.
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 1.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit. There must be evidence that on at least one occasion the individual has demonstrated that they have followed basic rules relevant to chemical safety, including:

- confirmed work requirements and equipment for chemical use with supervisor
- located and followed information on chemical labels and relevant safety data sheets according to supervisors' instructions
- recognised the use of chemicals and complied with chemical safety signs and symbols in the workplace
- recognised chemical hazards and risks and reported to supervisor and applied risk controls
- used, maintained and stored personal protective equipment (PPE)
- maintained and stored chemical application equipment according to supervisors' instructions
- located chemical store, handled, transported, stored and worked with chemicals according to supervisors' instructions
- followed emergency procedures for accidents or chemical spillage and reported to supervisor
- maintained records according to supervisor instructions.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- rules and instructions for working with and around chemicals
- common types of chemicals used in the workplace
- common types of chemical application equipment to be maintained and stored
- the structure and purpose of chemical labels and safety data sheets

- basics of hazards and risks of chemical use
- safety signage and symbols for chemical use in the workplace
- level of hazard and risks associated with common chemicals used in the workplace and methods of control
- PPE, when and how it should be worn, stored and maintained
- methods of reporting to supervisors' chemical hazards and risks
- safe methods of transporting, handling and storage of chemicals
- types of emergencies and the procedures for accidents and spills of chemicals
- records commonly kept for chemical use.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a typical workplace environment or an environment that accurately represents workplace conditions
 - access to chemicals and chemical store
- resources, equipment and materials:
 - PPE
- specifications:
 - workplace instructions and procedures
 - chemical safety data sheets
 - common chemical labels
- relationships:
 - supervisor.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

AHCCHM201 Apply chemicals under supervision

Modification History

Release	Comments
Release 2	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 3.0.
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 1.0.

Application

This unit of competency describes the skills and knowledge required to handle, transport, and apply chemicals under supervision using workplace specified chemicals and application equipment.

The unit applies to individuals working in a broad range of job contexts who undertake defined routine activities under supervision. They exercise limited autonomy within established and well-known parameters, providing solutions to a limited range of predictable problems.

State or territory licensing, legislative or certification requirements apply in some jurisdictions.

Pre-requisite Unit

Nil

Unit Sector

Chemicals (CHM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to handle chemicals	1.1 Confirm the activity related to chemical handling to be undertaken with supervisor

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.2 Identify and select tools and equipment required according to supervisor instructions</p> <p>1.3 Identify health and safety hazards and risks and apply controls according to supervisor instructions and workplace procedures</p> <p>1.4 Select, ensure serviceability, fit and use personal protective equipment (PPE)</p>
2. Check application equipment	<p>2.1 Carry out pre-operational checks of application equipment and identify and replace any damaged or worn components or report to supervisor</p> <p>2.2 Prepare application equipment for use according to workplace practice and safe chemical handling processes</p>
3. Handle and transport chemicals	<p>3.1 Confirm safety precautions for the handling and transport of chemicals with supervisor</p> <p>3.2 Handle and transport chemicals according to chemical label, safety data sheets and supervisor instructions</p>
4. Prepare chemical for application	<p>4.1 Interpret and apply chemical label instructions according to safety data sheets for the chemical or substance being used</p> <p>4.2 Select and use appropriate mixing equipment</p> <p>4.3 Measure, mix and load application equipment with chemical according to application rates</p> <p>4.4 Clear chemical spills according to chemical label and supervisor instructions</p> <p>4.5 Check that output of application equipment is correct and in accordance with chemical application plan</p>
5. Apply chemicals	<p>5.1 Assess and record weather conditions and forecasts prior to and during application according to workplace requirements</p> <p>5.2 Apply chemical safely according to chemical application plan, chemical label and supervisor instructions</p> <p>5.3 Monitor conditions for application and take appropriate action when conditions are unsuitable according to workplace procedures</p> <p>5.4 Minimise risks to others, product integrity and the environment prior to and during application</p>
6. Finalise work	<p>6.1 Clean and store PPE and application equipment in accordance with manufacturers and health and safety in the workplace</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	requirements 6.2 Dispose of excess chemicals and clean containers in accordance with label instructions and regulatory requirements 6.3 Complete incident reports according to workplace procedures 6.4 Complete chemical application records according to workplace procedures 6.5 Store unused chemical and products according to workplace procedures 6.6 Adhere to all re-entry requirements for treated areas

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret instructions, chemical labels and safety documentation to identify relevant and key information to apply to mixing and application of chemicals
Writing	<ul style="list-style-type: none"> Use clear language and correct concepts and terminology when reporting incidents and completing chemical application records
Numeracy	<ul style="list-style-type: none"> Perform basic mathematical calculations when measuring and mixing chemicals and checking chemical application equipment
Oral Communication	<ul style="list-style-type: none"> Use clear language, concepts, tone and pace appropriate when confirming chemical application parameters with supervisor
Get the work done	<ul style="list-style-type: none"> Follow clearly defined instructions and sequencing, and monitors own progress for the task, seeks assistance when necessary

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status

AHCCHM201 Apply chemicals under supervision Release 2	AHCCHM201 Apply chemicals under supervision Release 1	Minor changes to Performance Criteria for clarity Updated Performance Evidence and Knowledge Evidence	Equivalent unit
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Links

Companion Volumes, including Implementation Guides, are available at VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCCHM201 Apply chemicals under supervision

Modification History

Release	Comments
Release 2	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 3.0.
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 1.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit. There must be evidence that the individual has on at least one occasion demonstrated that chemicals have been applied under supervision, ensuring they have:

- identified hazards and risks and adopted safe work practices and used appropriate personal protective equipment (PPE) according to supervisors' instructions
- confirmed activity with supervisor and identified and selected tools and equipment necessary for the application of chemical treatment
- carried out pre-operational checks of application equipment and made it ready for operation
- handled and transported chemicals to be used according to chemical labels and supervisors' instructions
- followed directions on chemical labels and relevant safety data sheets to safely mix and prepare chemicals
- selected appropriate measuring equipment and measured, mixed and loaded application equipment with chemicals safely and correctly
- ensured chemical spills were cleared according to chemical label instruction and supervisor instructions
- checked the application equipment for output against plan and applied chemical safely complying with weather conditions
- monitored and recorded weather and applied chemical appropriate to prevailing conditions
- maintained a healthy and safe condition for the environment and others while applying and following chemical application
- cleaned application equipment and PPE and disposed of waste according to equipment manufacturer instructions, chemical label and supervisor instructions
- complied with equipment manufacturer instructions, chemical label and supervisor instructions

- maintained chemical application records and incident reports according to workplace procedures
- stored protection equipment, application equipment and unused chemicals according to workplace procedures.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- various handling and transport techniques and requirements for chemicals
- structure and content of chemical labels and safety data sheets and their use and purpose for safe chemical application
- principles and methods of measuring, mixing and applying chemicals
- features and functions of a range of application equipment relevant to the workplace their operations, and maintenance requirements
- risk factors to be taken into account for human and animal health, spillage and environmental impact relevant to chemical use before, during and following chemical application
- basic chemical groupings and types used in the workplace, including:
 - the mode of action
 - the impact on chemical safety
 - application methods
- paths of entry of poisons into the body and the methods of limiting exposure through practices and personal protective clothing
- maintenance practices for chemical application related equipment and PPE and disposal procedures for chemical contaminants and containers
- assessing weather conditions and the impact on safe application of chemicals
- components of a workplace chemical application plan
- chemical related records and reports and their purpose.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a typical workplace environment or an environment that accurately represents workplace conditions
 - access to chemical store
- resources, equipment and materials:
 - common chemicals
 - PPE
 - chemical application equipment
 - chemical measuring and mixing equipment
- specifications:

- workplace documents, including work instructions and procedures
- chemical labels and safety data sheets
- chemical application plan and relevant chemical application rates
- manufacturers' operation and maintenance instructions for chemical measuring and application equipment
- relationships:
 - supervisor.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

AHCCHM304 Transport and store chemicals

Modification History

Release	Comments
Release 3	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 3.0.
Release 2	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 1.1.
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 1.0.

Application

This unit of competency describes the skills and knowledge required to safely handle, transport and store chemicals.

The unit applies to individuals who work under broad direction and take responsibility for their own work. They use discretion and judgement in the selection, allocation and use of available resources and for solving problems.

State or territory licensing, legislative or certification requirements apply in some jurisdictions.

Pre-requisite Unit

Nil

Unit Sector

Chemicals (CHM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to handle and	1.1 Identify health and safety hazards, assess risks and implement

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
transport chemicals	<p>controls according to workplace procedures</p> <p>1.2 Ensure contact details for emergency services are available in transport vehicle according to workplace procedures and transport regulations</p> <p>1.3 Ensure transport vehicle complies with transport regulations</p> <p>1.4 Ensure containers are secured, protected and in a condition to be safely transported according to workplace procedures, manufacturer instructions, legislative and regulatory requirements</p> <p>1.5 Ensure emergency equipment and procedures are available in the vehicle according to workplace safety procedures and regulations</p> <p>1.6 Ensure transport arrangements comply with legislative and regulatory requirements for the transport of hazardous substances and dangerous goods</p> <p>1.7 Obtain and use safety data sheets (SDS) for chemicals to be transported according to health and safety in the workplace procedures and legislative and regulatory requirements</p>
2. Handle and transport chemicals	<p>2.1 Handle, transport and load chemicals according to chemical safety data information, chemical label, legislative and regulatory requirements</p> <p>2.2 Carry out emergency procedures according to chemical label, SDS and workplace procedures</p> <p>2.3 Report transport incidents according to workplace procedures and health and safety in the workplace regulations</p>
3. Store chemicals in the workplace	<p>3.1 Select, ensure serviceability, fit and use personal protective equipment according to SDS and chemical label instructions</p> <p>3.2 Identify chemical storage requirements and store chemicals according to chemical label, safety data information and health and safety in the workplace procedures</p> <p>3.3 Maintain storage area according to legislative and regulatory requirements, health and safety in the workplace and environmental procedures.</p> <p>3.4 Dispose of chemicals and chemical waste according to chemical label instructions and environmental regulations</p> <p>3.5 Monitor chemical expiration dates and dispose of expired chemicals according to chemical label instructions, workplace and legislative and regulatory requirements</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
4. Record storage details	4.1 Maintain register of stored chemicals and SDS according to workplace procedures and legislative and regulatory requirements 4.2 Report storage incidents according to legislative and regulatory requirements and workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Read and interpret SDS, chemical labels, manufacturer instructions, operating instruction and other workplace documentation and consolidates information to safely transport and store chemicals
Writing	<ul style="list-style-type: none"> Accurately record and complete organisational records using clear language, correct spelling and terminology when completing transport and storage records
Numeracy	<ul style="list-style-type: none"> Perform mathematical calculations to determine chemical weights, volumes and quantities to determine handling and storage requirements
Navigate the world of work	<ul style="list-style-type: none"> Take responsibility for following workplace policies, procedures and legislative and regulatory requirements Identify and implement chemical label requirements for handling and storage
Get the work done	<ul style="list-style-type: none"> Take responsibility for planning, sequencing and prioritising tasks required for chemical handling and storage activities Address problems and initiate standard procedures in response to emergencies applying problem solving processes

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status

AHCCHM304 Transport and store chemicals Release 3	AHCCHM304 Transport and store chemicals Release 2	Changes to Performance Criteria for clarity. Consolidated where content duplicated. Updated Performance Evidence and Knowledge Evidence	Equivalent unit
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Links

Companion Volumes, including Implementation Guides, are available at VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCCHM304 Transport and store chemicals

Modification History

Release	Comments
Release 3	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 3.0.
Release 2	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 1.1.
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 1.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit. There must be evidence that on at least one occasion the individual has demonstrated that they have safely transported and stored chemicals, including:

- identified health and safety hazards, assessed risks and implemented controls
- ensured emergency services contact details are available
- ensured transport vehicle meets regulations and that chemicals were loaded, secured and protected according to regulations and procedures
- ensured emergency equipment and procedures were available
- handled, transported and stored chemicals safely
- carried out emergency procedures safely and according to procedures
- maintained a chemical storage manifest and safety data sheets (SDS) according to legislative and regulatory requirements
- complied with chemical label instructions and SDS for transporting and storage of chemicals and legislative and regulatory requirements
- maintained inventory and records according to workplace procedures and legislative and regulatory requirements
- monitored chemical expiration and disposed of chemicals and waste according to workplace procedures and legislative and regulatory requirements.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- chemical labels and SDS their purpose, use and terminology, including:

- chemical signs, symbols and coding
- basic chemical properties and reactivity related to SDS and labels
- legislation and regulations that apply to transporting and storing chemicals, including:
 - transport vehicle requirements
 - information and documentation
 - dangerous and hazardous chemicals
 - placarding requirements
- risk factors including human and animal health and environmental
- processes and procedures for the disposal of excess, unwanted, expired chemicals and chemical waste including industry disposal programs
- health and safety in the workplace requirements including personal protective equipment (PPE) and manual handling
- emergency procedures for spills and accidents
- recording and monitoring of chemical stores including, expiration and disposal procedures.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a typical workplace environment or an environment that accurately represents workplace conditions
 - access to storage facility for chemicals
 - access to vehicle for transporting chemicals
- resources, equipment and materials:
 - chemicals
 - PPE
 - materials and equipment to handle, secure and protect chemical loads
- specifications:
 - specific workplace documents, including work instructions and procedures for chemical handling, storage and transport
 - chemical labels and safety data
 - legislation and regulations about handling, storage and transport of chemicals.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

AHCCHM307 Prepare and apply chemicals to control pest, weeds and diseases

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 3.0.

Application

This unit of competency describes the skills and knowledge required to safely prepare and apply chemicals for the control of pests, weeds and diseases, using general application equipment.

The unit applies to individuals who work under broad direction and take responsibility for their own work. They use discretion and judgement in the selection, allocation and use of available resources and for solving problems.

State or territory licensing, legislative or certification requirements apply in some jurisdictions.

Pre-requisite Unit

Nil

Unit Sector

Chemicals (CHM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Determine the need for chemical use and prepare an application plan	1.1 Identify the pest, weed or disease, and assess the need for control 1.2 Assess the requirement for chemical use 1.3 Assess health and safety hazard, risks and controls for different chemicals

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	1.4 Confirm requirement for chemical application according to workplace procedures 1.5 Assess off target risk of each application method 1.6 Assess the environmental risk for application method 1.7 Notify stakeholders of intended chemical application according to workplace procedures and legislative and regulatory requirements 1.8 Prepare application plan according to workplace procedures
2. Prepare chemical mixes	2.1 Identify and select chemical required for target according to application plan 2.2 Calculate the volume, rate or dose according to chemical label instructions 2.3 Identify and select application equipment and set-up requirements according to application plan and operator instructions 2.4 Identify hazards, assess risks and implement control measures for application method according to chemical label and health and safety in the workplace procedures 2.5 Identify, select, fit and use personal protective equipment (PPE) according to workplace procedures 2.6 Select appropriate mixing equipment and suitable location to prepare and load chemicals according to workplace procedures 2.7 Prepare chemicals according to chemical label instructions 2.8 Return unused chemical to store and clean preparation equipment and work site of residues and spillage according to chemical label instructions and workplace procedures
3. Calibrate application equipment	3.1 Select application equipment for chemical according to application plan, off target risks and workplace procedures 3.2 Conduct pre-operational checks of application equipment according to operator and maintenance manual 3.3 Calibrate equipment according to operating instructions and application plan 3.4 Load equipment with chemical according to operating instructions and workplace safety procedures
4. Apply chemicals	4.1 Monitor and assess weather conditions and forecasts to ensure effective chemical application according to application plan

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>4.2 Select, ensure serviceability, fit and use PPE according to chemical label instructions and workplace procedures</p> <p>4.3 Apply chemical according to label directions and application plan relating to the control of the pest, weed or disease</p> <p>4.4 Monitor application equipment for correct performance and ensure effective chemicals application according to operating instructions</p> <p>4.5 Identify health and safety in the workplace hazards and risks and implement controls</p> <p>4.6 Clean up spills during application according to chemical label instructions and workplace procedures</p>
5. Clean up equipment and complete records	<p>5.1 Clean and decontaminate application equipment according to operator instructions, safety data sheets (SDS) and legislative requirements</p> <p>5.2 Dispose of chemicals and used containers according to chemical label instructions, SDS and legislative requirements</p> <p>5.3 Clean and store PPE according to workplace procedures</p> <p>5.4 Record and report safety and environmental incidents according to workplace procedures and regulatory requirements</p> <p>5.5 Record details of chemical application according to workplace procedures and legislative requirements</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Read and interpret SDS, chemical labels, operating instruction and other documentation and consolidates information to determine chemical application actions and activity
Writing	<ul style="list-style-type: none"> Accurately record and complete organisational records using clear language and terminology
Numeracy	<ul style="list-style-type: none"> Perform mathematical calculations to determine rates of application chemical mixtures and calibration of equipment

Skill	Description
Navigate the world of work	<ul style="list-style-type: none"> Take responsibility for following policies, procedures and regulations Identify and implement chemical label requirements
Get the work done	<ul style="list-style-type: none"> Take responsibility for planning, sequencing and prioritising tasks required for chemical application activities

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCCHM307 Prepare and apply chemicals to control pest, weeds and diseases	AHCCHM303 Prepare and apply chemicals	Minor change of title for clarity Minor changes to Performance Criteria for clarity Updated Performance Evidence and Knowledge Evidence	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCCHM307 Prepare and apply chemicals to control pest, weeds and diseases

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 3.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit. There must be evidence that the individual has on at least one occasion demonstrated the ability to safely prepare and apply chemicals ensuring they have:

- determined and confirmed the need for chemical application by assessing the infestation, off target risk, and environmental risks
- developed an application plan for chemical application
- identified health and safety hazards, risk and implemented control procedures according to chemical label
- notified stakeholders of planned chemical application
- used personal protective equipment (PPE) according to workplace procedures
- interpreted chemical labels and applied chemical according to safety data sheets (SDS) and application plan
- identified and selected the chemical required for the target and calculated the amount and rates required according to chemical label
- identified and selected application equipment and suitable location, and determined the set up parameters according to application plan and operator instructions
- monitored and assessed weather conditions and equipment performance to ensure effective chemical application
- selected, conducted pre-operational checks according to operator and maintenance manual
- completed at least one calibration activity for application equipment
- prepared and loaded chemicals and returned unused chemicals to store in accordance with label, application plan and workplace procedures
- applied chemicals safely according to chemical labels, regulations and workplace procedures
- complied with chemical labels, SDS, regulations, maintenance manual, environmental procedures, operator instructions and application plan
- cleaned equipment and spills, and disposed of waste according to workplace and environmental procedures

- maintained records and reported incidents according to workplace procedures and regulatory requirements.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- control options when selecting chemicals for pests, diseases and weeds infestations, including:
 - chemical
 - mechanical
 - cultural
 - biological
 - integrated pest management including resistance management principles
- types of pest, diseases and weed their treatment and resistance
- legal implications and requirements of chemical labels and SDS
- stakeholders and required notifications including, neighbours, staff and statutory notifications
- impact of weather factors on the safe and effective application of chemicals
- characteristics of chemicals, their mode of action and relevance to chemical selection and use, including:
 - translocated/systemic
 - contact
 - ingested poison
 - protectant
 - eradicant
 - knock-down
 - residual
 - selective/non selective
- factors that contribute to off target damage, including:
 - physical movement of chemicals (e.g. animals moving baits or soil movement)
 - chemical formulation
 - wind speed and direction
 - temperature and relative humidity
 - temperature inversions
 - controlling off target damage
 - rainfall
 - buffer zones and barriers
- hazards of chemical application, including:
 - human and animal health
 - environmental contamination

- residues in environment, plants and animals
- withholding/re-entry periods
- safety requirements when applying chemicals, including:
 - procedures
 - PPE
 - signage
- safe handling, transporting and storage of chemicals
- preparing chemicals including preparation, compatibility, adjuvants and water quality
- requirements for disposal of excess chemicals, clearing spillages and equipment clean up
- selecting and operating suitable application equipment
- features, functions and calibration techniques for powered and hand held application equipment, including:
 - pressure and volume of chemical
 - travel speed
 - nozzle identification, selection, operation
- legislation, regulations and licensing requirements in relation to chemical use.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a typical workplace environment or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - chemicals
 - PPE
 - application equipment
 - chemical measuring and mixing equipment
- specifications:
 - specific workplace documents, including work instructions and procedures for chemical application
 - chemical labels and SDS
 - regulations about use of chemicals
 - manufacturers' operation and maintenance instructions for equipment
 - access to weather forecasts or means to measure local weather.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

AHCCHM404 Develop procedures to minimise risks in the use of chemicals

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 3.0.

Application

This unit of competency describes the skills and knowledge required to assess hazards and risks and determine controls and develop procedures to mitigate risks when using chemicals.

The unit applies to individuals who take responsibility for their own work and may provide direction to others. They provide and communicate solutions to a range of predictable and sometimes unpredictable problems.

No occupational licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Chemicals (CHM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Identify chemical use hazards and risks	1.1 Identify, source and analyse information relating to safe use of chemicals in industry 1.2 Identify steps for the process of using chemicals 1.3 Identify hazards and risks for the process of using chemicals

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
2. Assess risks associated with chemical use and develop control procedures	<p>2.1 Assess risks associated with using chemicals in the workplace</p> <p>2.2 Develop control measures and emergency action plans to mitigate risk according to workplace procedures and industry best practice</p> <p>2.3 Develop procedures for risk control for operational activities using chemicals according to industry best practice</p> <p>2.4 Develop a continuous improvement strategy to address identified deficiencies in risk control procedures</p>
3. Monitor and assess adherence to chemical risk procedures	<p>3.1 Provide personnel with chemical use procedures, instruction and safety equipment, including personal protective equipment, for using chemical control strategies</p> <p>3.2 Monitor and assess personnel performance against procedures for selecting equipment for chemical use</p> <p>3.3 Monitor and assess personnel performance against procedures for operational activities of chemical use</p> <p>3.4 Measure the performance of personnel for following risk control procedures according to industry practice</p>
4. Evaluate risk control measures and maintain records	<p>4.1 Develop procedures for evaluating the effectiveness of risk control measures</p> <p>4.2 Identify shortfalls in procedures and document changes required</p> <p>4.3 Update procedures to reflect required changes according to industry best practice</p> <p>4.4 Develop and maintain record systems for risk assessment according to industry best practice and legislative and regulatory requirements</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Critical analysis information and consolidate to determine risks in chemical control procedures

Skill	Description
Writing	<ul style="list-style-type: none"> Develop procedural material using clear and detailed language in order to convey explicit risk control information
Oral Communication	<ul style="list-style-type: none"> Present complex information using clear and convincing language, tone and pace appropriate when briefing personnel on procedures
Navigate the world of work	<ul style="list-style-type: none"> Work independently or with others in making decisions to achieve organisation outcomes Contribute to roles and responsibilities of others Take full responsibility for following policies, procedures and legislative requirements
Interact with others	<ul style="list-style-type: none"> Implement strategies for a diverse range of colleagues in order to build rapport and foster strong relationships when instructing and monitoring performance Elicit feedback and provide feedback to others in order to improve workgroup behaviours and update procedures
Get the work done	<ul style="list-style-type: none"> Accept responsibility for planning and sequencing complex tasks and workload Monitor progress of procedures and reviews and amends them to meet demands and priorities Apply systematic and analytical decision making processes for complex and non-routine situations

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCCHM404 Develop procedures to minimise risks in the use of chemicals	AHCCHM401 Develop procedures to minimise risks in the use of chemicals	<p>Changes to Performance Criteria for clarity</p> <p>Removal of prerequisites units</p> <p>Added PC's in Element 1 and Element 4</p> <p>Updated Performance Evidence and Knowledge Evidence</p>	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCCHM404 Develop procedures to minimise risks in the use of chemicals

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 3.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit. There must be evidence that on at least one occasion the individual has demonstrated that they have developed procedures to minimise risks in the use of chemicals, including:

- sourced information and analysed its content for safe chemical use
- identified steps in the chemical use process and identified hazards and risks
- assessed the risks and developed risk control procedures to mitigate the risk for chemical use
- implemented procedures, monitored and evaluated personnel using procedures
- developed a continuous improvement strategy for risk control procedures
- implemented, monitored and evaluated a chemical risk control procedure
- developed and maintained records for risk assessment.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- sources of chemical safety information, including:
 - codes of practice
 - legislation and regulations
 - chemical manufacturer labels
 - safety data sheets (SDS)
- industry best practice requirements relating to chemical use
- strategies for identifying hazards, risks and controls
- risk factors, including:
 - human
 - animal health
 - product integrity

- weather
- residues and maximum residue levels
- spray drift, spillage and environment
- requirements for the disposal of excess chemicals, clearing spillages and equipment clean up
- chemical application equipment capabilities and limitations
- principles and practices of chemical handling, transporting and storage of chemicals and fumigants
- principles and practices of chemical application strategies and equipment including integrated pest management
- operational factors to consider in procedures, including:
 - transport, handling and storage
 - application methods, equipment and personal protective equipment (PPE)
 - cleaning and decontamination
 - disposal of waste
- strategies for instructing personnel, and monitoring and assessing personnel performance
- mandatory and workplace record keeping requirements for chemical storage, disposal, application and safety.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a workplace setting or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - tools and equipment required to implement the chemical use procedure
 - PPE
- specifications:
 - specific workplace documents including policies and processes
 - manufacturers' operating instructions for equipment and machinery
 - SDS
 - workplace instructions and job specifications
 - chemical information including legislation, codes of practice, manufacturer instructions
- relationships:
 - team member(s).

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

AHCCHM405 Plan and implement a chemical use program

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 3.0.

Application

This unit of competency describes the skills and knowledge required to assess and control the risks associated with chemical use and to plan and implement a program for chemical use.

The unit applies to individuals who take responsibility for their own work and provide direction to others. All work must be carried out to comply with workplace procedures, in accordance with applicable state/territory health and safety in the workplace, pesticide and environmental legislation and codes of practice.

No occupational licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Chemicals (CHM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Identify requirements for chemical use	1.1 Identify, source and interpret information required for planning and implementing a chemical use program 1.2 Assess the need for chemical use as an option 1.3 Ensure that personnel are adequately trained in chemical use according to workplace procedures

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
2. Assess risks and develop control procedures	<p>2.1 Identify hazards, assess risks and develop control measures and emergency action plans for chemical use operational activities</p> <p>2.2 Assess weather conditions and forecasts to determine implications for off target contamination</p> <p>2.3 Assess the sensitivity of target area and impact of chemical on the environment according to chemical label instructions and safety data sheets (SDS)</p> <p>2.4 Assess the risk to human and animal health according to chemical label instructions and SDS</p> <p>2.5 Analyse assessments and document risk control procedures for the chemical application plan according to workplace procedures</p>
3. Develop an operational and maintenance program for chemical use	<p>3.1 Determine chemicals to be used according to workplace pest management strategy</p> <p>3.2 Calculate mixing requirements for chemicals according to chemical label instructions and workplace procedures</p> <p>3.3 Document operational checks and calibration requirements of equipment according to operators instructions and manufacturer specifications</p> <p>3.4 Develop and implement an operational and maintenance strategy for application equipment and personal protective equipment according to health and safety practices</p> <p>3.5 Document operational and maintenance procedures for chemical application plan according to workplace protocols</p>
4. Implement and monitor chemical application plan	<p>4.1 Provide personnel with chemical use procedures, and instruction on safety equipment for chemical application plan</p> <p>4.2 Monitor adherence with safe practice for preparation and application of chemicals according to chemical application plan</p> <p>4.3 Monitor adherence to procedures for handling, transport, storage, decontamination and disposal of chemicals according to chemical application plan</p> <p>4.4 Monitor adherence to maintenance procedures according to chemical application plan</p> <p>4.5 Monitor adherence to residue procedures for product and environment according to chemical application plan</p>
5. Finalise work	5.1 Ensure excess chemicals are disposed of according to waste

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
activities in accordance with chemical application plan	management and environment procedures 5.2 Ensure required records are completed according to operational and workplace, health and safety procedures
6. Evaluate chemical application plan and records for continuous improvement	6.1 Develop procedures for evaluating the effectiveness of chemical application plan 6.2 Identify and document shortfalls in chemical application plan 6.3 Develop a continuous improvement strategy to rectify the chemical application plan

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Critically analyse and consolidate information to determine chemical control procedures and develop chemical application plan
Writing	<ul style="list-style-type: none"> Develop procedural material using clear and detailed language in order to convey explicit risk control information
Oral Communication	<ul style="list-style-type: none"> Present complex information using clear and convincing language, tone and pace appropriate when briefing personnel on chemical application plan
Navigate the world of work	<ul style="list-style-type: none"> Work independently or with others in making decisions to achieve organisation outcomes Contribute to roles and responsibilities of others through implementation of plans Take full responsibility for following policies, procedures and legislative requirements
Interact with others	<ul style="list-style-type: none"> Implement strategies for a diverse range of colleagues in order to build rapport and foster strong relationships when instructing and monitoring performance Elicit feedback and provides feedback to others in order to improve workgroup behaviours and update plans

Skill	Description
Get the work done	<ul style="list-style-type: none"> • Accept responsibility for planning and sequencing complex tasks and workload • Monitor progress of procedures and reviews and amends them to meet demands and priorities • Apply systematic and analytical decision making processes for complex and non-routine situations

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCCHM405 Plan and implement a chemical use program	AHCCHM402 Plan and implement a chemical use program	Changes to Performance Criteria for clarity and added PC in Element 6. Removal of prerequisite units Updated Performance Evidence and Knowledge Evidence	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCCHM405 Plan and implement a chemical use program

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 3.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit. There must be evidence that on at least one occasion the individual has demonstrated that they have planned and implemented a chemical use program, including:

- sourced information and analysed its content for chemical application
- assessed the need for chemical use and ensured personnel are adequately trained in chemical use according to workplace procedures
- identified hazards, risks and provided controls, including personal protective equipment (PPE) for chemical application and off target impact
- assessed weather conditions and environmental sensitivity of the site
- documented chemical application and maintenance procedures according to workplace protocols
- determined chemicals required and mixing requirements according to workplace procedures and chemical label instructions
- develop a continuous improvement strategy to minimise risk
- communicated chemical application plan to personnel
- implemented procedures and monitored and evaluated personnel according to chemical application plan
- developed a continuous improvement strategy for chemical application plan
- implemented, monitored and evaluated a chemical application plan.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- source of information for developing plans, including:
 - legislation and regulations
 - codes of practice
 - chemical labels

- safety data sheets (SDS)
- industry requirements relating to chemical use
- strategies for identifying hazard, risks and controls
- risk factors, including:
 - human
 - animal health
 - product integrity
 - weather
 - residues and maximum residue levels
 - off target damage, spillage and environment
- principles of transport, handling and storing chemicals
- requirements for the disposal of excess chemicals, clearing spillages and equipment clean up
- chemical application equipment capabilities, limitations and calibration
- mixing chemicals, including:
 - rates
 - mixing order if more than one chemical
 - adjuvants
 - water quality
- life cycle of a variety of pests and the target stages
- implications of pest resistance to chemicals
- principles and practices of chemical application strategies and equipment including, integrated pest management and animal health strategies
- preparation and documentation of strategic plans and procedures
- signs of pest damage and signs of beneficial organisms
- operational factors to consider in a procedures, including:
 - transport, handling and storage
 - application methods, equipment and PPE
 - cleaning and decontamination
 - disposal of waste
- emergency procedures including first aid
- strategies for instructing personnel, and monitoring and assessing personnel performance
- mandatory and workplace record keeping requirements for chemical storage, disposal, application and safety.

Assessment Conditions

Competency is to be assessed in the workplace OR simulated environment that accurately reflects performance in a real workplace setting.

Assessment of skills must take place under the following conditions:

- physical conditions:

- skills must be demonstrated in a workplace setting or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - tools and equipment required to implement the chemical application program
 - PPE
 - chemicals and relevant weighing and mixing equipment
- specifications:
 - specific workplace documents including policies and processes
 - manufacturers' operating instructions for chemicals, equipment and machinery
 - SDS
 - workplace instructions and job specifications
 - chemical information including legislation, codes of practice, chemical label instructions
- relationships:
 - team member(s) or work crew
- timeframes:
 - schedules and planned completion dates for a chemical application plan.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

AHCECR502 Conduct biological surveys

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to plan and conduct biological surveys and produce a biological survey report, according to client requirements and biological components to be surveyed.

The unit applies to individuals working as land restoration managers who analyse information and exercise judgement to complete a range of advanced skilled activities demonstrating a deep knowledge in specific technical areas within land management. They have accountability for the work of others and analyse, design and communicate solutions to a range of complex problems.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Ecological Restoration (ECR)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Carry out preliminary design activities for the biological survey	1.1 Identify survey scope, objectives and constraints according to client brief 1.2 Source, collate and evaluate current data relevant to survey requirements

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.3 Develop processes for data collection and processing consistent with the survey scope, objectives and constraints</p> <p>1.4 Design survey plan reflecting client requirements and present to client for approval</p> <p>1.5 Incorporate workplace health and safety and environmental sustainability and biosecurity procedures into plan</p>
2. Determine requirements of the biological survey	<p>2.1 Identify biological survey indicators and evaluate constraints and opportunities for data collection</p> <p>2.2 Identify data collection points that are repeatable and statistically representative</p> <p>2.3 Identify hazards associated with a biological survey, assess risks and develop controls, determine costs, and document in the survey design</p> <p>2.4 Secure permits and approvals required for survey according to ethical standards, workplace procedures and legislative requirements</p> <p>2.5 Determine tools, equipment and machinery required for the survey and confirm availability with suppliers</p> <p>2.6 Schedule survey activities and surveyor access according to the survey design</p> <p>2.7 Document survey procedures and schedules and present to stakeholders and client for approval</p>
3. Conduct the biological survey	<p>3.1 Conduct field visit to verify existing data and update information</p> <p>3.2 Conduct the biological survey according to the survey design</p> <p>3.3 Monitor survey activities for accuracy, compliance to the survey design and legislative and ethical standards</p> <p>3.4 Undertake staged data collection according to the survey design, scheduling and surveyor access requirements</p> <p>3.5 Record all monitoring and survey data according to specifications of the survey design</p>
4. Compile a biological survey report	<p>4.1 Analyse data and draw conclusions based on evidence and reasoned arguments</p> <p>4.2 Prepare a biological survey report according to agreed timeframes and client outcomes and workplace standards</p> <p>4.3 Present report to the client</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Draw on a broad range of strategies to interpret, build and maintain understanding from data sets and reference materials when planning, collating and interpreting survey data
Writing	<ul style="list-style-type: none"> Record outcomes of surveys and incorporate into biological survey reports, expressing ideas and exploring complex issues, and ensuring it is constructed logically, succinctly and accurately
Numeracy	<ul style="list-style-type: none"> Capture, record and analyse survey data and use calculations to help formulate conclusions

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCECR502 Conduct biological surveys	AHCNAR502 Conduct biological surveys	<p>Changed unit code to reflect new unit sector</p> <p>Minor changes to Application and Performance Criteria</p> <p>Updated Performance Evidence, Knowledge Evidence and Assessment Conditions</p>	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCECR502 Conduct biological surveys

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has planned and conducted at least one biological survey with at least two of the following biological elements:

- flora
- vertebrate fauna
- fungi
- invertebrate fauna
- microorganisms

The survey must also be conducted in at least one of the following environments:

- terrestrial
- marine or aquatic
- arboreal

There must be evidence that the individual has:

- planned, conducted and reported on biological surveys according to client requirements, workplace policies and industry best practice
- identified scope, objectives and constraints for a biological survey
- assessed current data and determined data collection and processing needs
- identified biological indicators that are repeatable and statistically representative
- developed a survey plan that documents survey methods and indicators
- secured permits and approvals
- scheduled survey activities and established access to the site
- conducted a biological survey with data collection staged and recorded according to the survey plan and health and safety requirements, and that must include:
 - species, identified by biological and vernacular name
 - frequency
 - distribution

- condition
- habitat
- produced a biological survey report with analysis and conclusions, including:
 - survey findings according to the survey scope and objectives
 - identified areas requiring remedial action and improvements
 - detailed recommendations for action
 - description and assessment of the specified biological components
- ensured survey plan and activities complied with animal welfare codes of practice and environmental and biosecurity procedures.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- biological classification systems
- plant and animal recognition relevant to survey area
- environmental factors that impact on vegetation and animal populations
- survey equipment, machinery and methods for specific environments, including:
 - marine and aquatic
 - terrestrial
 - arboreal
- survey techniques and methods for different biological elements, including:
 - microorganisms
 - fungi
 - micro and macro invertebrates
 - plants
 - animals including fish
 - methods for obtaining statistically representative sample
- requirements for ensuring the legality of biological surveys, including:
 - animal welfare
 - codes of practice
 - legislative requirements
 - ethical standards and approvals
- ecological principles and terminology, including
 - ecosystem structures and habitat
 - interactions between flora and fauna
 - vegetation types and their characteristics
 - energy flows and trophic structures of communities
- assessment, reporting and client liaison procedures and best practice techniques
- workplace team management procedures
- workplace health and safety legislative requirements and codes of practice, including:

- hazard identification, assessment and control measures.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in the field and according to the conditions specified in the Performance Evidence or in an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - survey equipment relative to the type of survey undertaken
- specifications:
 - specific workplace policies and procedures for conducting surveys and recording results
 - client brief and specifications for survey
 - specific legislation and codes of practice for ethical surveys
- relationships:
 - client
- timeframes:
 - according to time specified in client brief.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

AHCINF206 Install, maintain and repair farm fencing

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 9.0.

Application

This unit of competency describes the skills and knowledge required to install, maintain and repair farm fencing using appropriate tools and techniques.

The unit applies to individuals who install, maintain and repair farm fencing under general supervision with limited autonomy or accountability.

All work must be carried out to comply with workplace procedures, health and safety in the workplace requirements, legislative and regulatory requirements and manufacturer specifications.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Infrastructure (INF)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for farm fencing work	1.1 Confirm work instructions with supervisor 1.2 Identify and report workplace health and safety hazards and risks to supervisor 1.3 Prepare and use tools and equipment according to supervisor

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>instructions</p> <p>1.4 Carry out routine pre-operational checks of tools</p> <p>1.5 Identify faulty or unsafe tools, and separate for repair or replacement</p> <p>1.6 Select, fit and use personal protective equipment (PPE) applicable to the task</p> <p>1.7 Prepare fencing materials, tools and equipment for transport to worksite</p>
2. Undertake farm fence installation	<p>2.1 Install and secure posts and stays according to work instructions</p> <p>2.2 String and tension wire according to job requirements and wire specifications</p> <p>2.3 Attach wire netting or other fencing materials according to work instructions</p> <p>2.4 Position and attach gates and check their operation according to manufacturer instructions</p>
3. Maintain and repair farm fencing	<p>3.1 Identify faults or structural damage, and carry out necessary repairs</p> <p>3.2 Dismantle fences and recover re-useable materials</p> <p>3.3 Identify and report further maintenance or repair works to supervisor</p> <p>3.4 Pack used fencing material for reuse, or dispose of it</p>
4. Complete farm fencing work	<p>4.1 Clear and tidy work area, and remove or dispose of or recycle rubbish and waste material</p> <p>4.2 Clean, maintain and store tools, materials and equipment</p> <p>4.3 Report work outcomes and malfunctions, faults, wear or damage of tools to supervisor</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret workplace instructions to formulate an understanding of expected requirements and activity
Oral Communication	<ul style="list-style-type: none"> Use clear language and standard industry terminology to report malfunctions, faults, wear or damage of tools Participate in verbal exchanges to respond to questions and clarify instructions with supervisor
Numeracy	<ul style="list-style-type: none"> Determine fencing resources and measurements to construct fencing

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCINF206 Install, maintain and repair farm fencing	AHCINF202 Install, maintain and repair farm fencing	<p>Minor changes to application</p> <p>Major and minor changes to performance criteria and foundation skills</p> <p>Major and minor edits to performance and knowledge evidence and assessment conditions</p>	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCINF206 Install, maintain and repair farm fencing

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 9.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has installed, maintained and repaired farm fencing on at least one occasion and has:

- confirmed farm fencing requirements and plan with supervisor
- identified workplace health and safety hazards and risks, and reported to supervisor
- applied workplace health and safety requirements, including fitted and used personal protective equipment (PPE)
- selected, prepared, transported and safely used fencing materials, tools and equipment applicable to installing, maintaining and repairing farm fencing
- conducted pre-operational checks and replaced or separated for repair tools and equipment identified with faults
- installed and repaired fencing components and gates
- dismantled and recovered reusable materials from existing fence
- reported farm fencing installation, maintenance and repair activities and unserviceable tools and equipment
- cleaned and tidied up work area and disposed of or recycled waste.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- designs and purpose of a range of farm fencing
- common hazards involved in fencing installation, maintenance and repair
- workplace requirements applicable to health and safety in the workplace for installing, maintaining and repairing farm fencing, including appropriate use of PPE
- tools and equipment used for fencing and their safe operation, storage and maintenance
- applications and limitations of wire types, knots and tensions

- fencing materials manufacturer specifications and guidelines.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - a workplace setting or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - fences, fencing tools, materials and equipment
 - PPE applicable to installing, maintaining and repairing farm fencing
- specifications:
 - workplace health and safety procedures relevant to farm fence installation, maintenance and repair
 - workplace documents, including processes, instructions, job and wire specifications relevant to installing, maintaining and repairing farm fencing
 - manufacturer operating instructions for fencing equipment
- relationships:
 - supervisor.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

AHCINF307 Plan and construct conventional fencing

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 9.0.

Application

This unit of competency describes the skills and knowledge required to plan and construct conventional fencing.

The unit applies to individuals who construct conventional fencing under broad direction, and take responsibility for their own work.

All work must be carried out to comply with workplace procedures, health and safety in the workplace requirements, legislative and regulatory requirements and manufacturer specifications.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Infrastructure (INF)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Determine fencing requirements	1.1 Access property maps and assess fencing requirements according to workplace objectives 1.2 Calculate fencing material required for the task 1.3 Prepare fencing plan, giving consideration to siting fences in

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	relation to natural features, land class and proposed use
2. Prepare for construction	2.1 Check proposed fencing against property maps and work plan 2.2 Identify services, structures and features that may impact on the fencing work, and incorporate into the fencing plan 2.3 Organise and transport tools and equipment to the work site 2.4 Confirm and arrange labour requirements 2.5 Identify potential hazards and risks, and implement safe working practices to manage risks
3. Construct conventional fence	3.1 Select, fit, use and maintain personal protective equipment (PPE) applicable to the task 3.2 Mark out and check fence lines against work plan and property maps 3.3 Construct fence according to fencing plan specifications and fence design 3.4 Attach and position gates for correct operation and function
4. Complete fencing operations	4.1 Clean and tidy work area and dispose of or recycle rubbish and waste material 4.2 Transport, clean, maintain and store tools, fencing equipment and PPE according to workplace procedures 4.3 Identify and report unserviceable tools and equipment according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret textual information from a range of sources to identify relevant information about fencing requirements

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCINF307 Plan and construct conventional fencing	AHCINF303 Plan and construct conventional fencing	Minor changes to application Minor changes to performance criteria Foundation skills added Major and minor edits to performance and knowledge evidence and assessment conditions	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCINF307 Plan and construct conventional fencing

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 9.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has planned and constructed conventional fencing on at least one occasion and has:

- sited fence line according to property or land management plan
- sourced and arranged delivery of fencing materials
- recognised and reported workplace health and safety hazards and used safe work practices
- applied workplace health and safety requirements, including fitted and used personal protective equipment (PPE)
- constructed a fence that meets specifications in the fencing plan and is within tolerances for materials
- strung and strained wires to manufacturer recommended tension
- used and maintained fencing tools and equipment
- constructed gate assemblies and swing gate
- cleaned and tidied up work area, stored tools and equipment and disposed of waste.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- range of fencing designs, construction methods and materials
- fencing materials and costings
- procedures for planning fencing in relation to the whole property plan
- issues affecting property fence planning and construction
- types of fencing construction tools and equipment
- common fencing hazards and safety precautions
- workplace requirements applicable to health and safety in the workplace for planning and constructing conventional fencing, including appropriate use of PPE

- disposal and recycling of waste material, including identification and disposal of hazardous material associated with conventional fence planning and construction
- workplace procedures relevant to conventional fence planning and construction, and disposing of waste materials.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - a workplace setting or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - fences, fencing tools, material and equipment
 - PPE applicable to conventional fence planning and construction
- specifications:
 - workplace health and safety legislation, regulations, codes of practice and workplace procedures relevant to conventional fence planning and construction
 - workplace documents, including workplace procedures, processes, instructions and job specifications relevant to conventional fence planning and construction.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

AHCIRG328 Operate irrigation controller and sensor technology

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 4.0.

Application

This unit of competency describes the skills and knowledge required to operate irrigation controller and sensor technology as part of irrigation installation, construction and operation.

The unit applies to individuals who operate irrigation controller and sensor technology under broad direction and take responsibility for their own work.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Irrigation (IRG)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for work	<p>1.1 Confirm activity to be undertaken, including identifying potential hazards and risks and implementing safe working practices to manage risks</p> <p>1.2 Select required tools and equipment, and check for safe operation and accuracy</p> <p>1.3 Select, fit and use personal protective equipment applicable to the task</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
2. Operate irrigation controllers	2.1 Link valves to controllers by wiring or radio signals 2.2 Program controllers according to operating procedures 2.3 Operate controller according to site requirements 2.4 Troubleshoot controller and rectify cause of faults
3. Operate irrigation sensors	3.1 Link sensors to controllers by wiring or radio signals 3.2 Program controllers to monitor sensor 3.3 Operate and monitor accuracy and reliability of sensor control equipment, and adjust where necessary 3.4 Collect samples according to sampling techniques 3.5 Record and interpret readings and observations 3.6 Troubleshoot sensors and rectify cause of faults 3.7 Report discrepancies or malfunctions to management

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret textual information from a range of sources to identify relevant and key information about workplace operations
Writing	<ul style="list-style-type: none"> Complete records of readings and observations legibly and accurately using correct technical terminology
Oral communication	<ul style="list-style-type: none"> Use clear language to report discrepancies or malfunctions
Numeracy	<ul style="list-style-type: none"> Interpret the measurements of sample results Make calculations to check the accuracy of program irrigation controllers and adjust electronic flow equipment
Navigate the world of work	<ul style="list-style-type: none"> Recognise and follow workplace requirements, including safety requirements, associated with own role and area of responsibility

Range of Conditions

This section specifies different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Controllers must include at least 3 of the following:	<ul style="list-style-type: none"> • stand-alone • Bluetooth • wifi • remote radio controllers • multi-site central controllers.
Sensors must include at least 4 of the following:	<ul style="list-style-type: none"> • water meters • soil moisture and temperature sensors • air temperature sensors • weather stations • pump pressure sensors • rainfall sensors.

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCIRG328 Operate irrigation controller and sensor technology	AHCIRG325 Operate irrigation technology	Title updated Performance criteria clarified Foundation skills added Range of conditions added Assessment requirements updated	No equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCIRG328 Operate irrigation controller and sensor technology

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 4.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has operated irrigation controller and sensor technology on at least two occasions, and has:

- applied workplace health and safety requirements
- selected tools and equipment appropriate to the scope of works
- maintained and checked irrigation controller and sensor equipment for accuracy
- operated irrigation controllers and sensors
- checked the accuracy of controller and sensor equipment, and adjusted
- recorded the results of sampling and testing
- recorded observations and data.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- workplace requirements applicable to health and safety in the workplace for operating irrigation controller and sensor technology, including working with extra low voltage wiring according to Australian Standards
- basic electrical testing procedures and safety practices
- irrigation controller and sensor operating and testing procedures
- environmental procedures for use, storage and recycling of electronic equipment and batteries
- data recording procedures.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - a workplace setting or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - irrigation controller and sensor installation and operating equipment
 - irrigation controllers and sensors
 - personal protective equipment applicable to installing and operating irrigation controller and sensor technology
- specifications:
 - work instructions and workplace procedures applicable to operating irrigation controller and sensor technology
 - workplace requirements applicable to health and safety in the workplace for operating irrigation controller and sensor technology
 - Australian Standards applicable to working with extra low voltage wiring
 - irrigation controller and sensor operating and testing procedures
 - data recording procedures
 - environmental procedures for use, storage and recycling of electronic equipment and batteries
- relationships:
 - supervisor
- timeframes:
 - according to job requirements.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

AHCIRG346 Operate pressurised irrigation systems

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 4.0.

Application

This unit of competency describes the skills and knowledge required to pre-start check, inspect, start up, operate, monitor and shut down pressurised irrigation systems.

The unit applies to individuals who operate pressurised irrigation systems under broad direction and take responsibility for their own work.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Irrigation (IRG)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Carry out pre-start checks	1.1 Confirm activity to be undertaken, including identifying potential hazards and risks and implementing safe working practices to manage risks 1.2 Select required tools and equipment and check for safe operation 1.3 Select, fit and use personal protective equipment applicable to the task 1.4 Check water, power, fuel and lubricants to confirm all are

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	available and the control system is operational 1.5 Prime pumps, if necessary, and open or close valves and controls as directed 1.6 Calibrate pressure and flow testing equipment 1.7 Carry out other pre-start system checks
2. Inspect and operate the system	2.1 Implement start up sequence according to operation and maintenance procedures 2.2 Check emitter spacing against the irrigation plan 2.3 Adjust water pressure as required 2.4 Clear and replace filters as required 2.5 Correct or repair all malfunctions, leaks and blockages and report
3. Monitor irrigation system performance	3.1 Check emitters for output 3.2 Calculate application rate of water 3.3 Check the water distribution pattern in the irrigated area 3.4 Monitor moisture levels in the root zone 3.5 Minimise environmental impacts of the operation
4. Shut down irrigation system	4.1 Apply water for sufficient time to achieve required soil moisture levels and allow for weather conditions 4.2 Shut down system components and drain 4.3 Record and report irrigation activities according to workplace recording procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret textual information from a range of sources to identify relevant and key information about workplace operations

Skill	Description
Writing	<ul style="list-style-type: none"> Use the correct terminology to document irrigation activities
Oral communication	<ul style="list-style-type: none"> Use clear language to report irrigation activities
Navigate the world of work	<ul style="list-style-type: none"> Recognise and follow workplace requirements, including safety requirements, associated with own role and area of responsibility

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCIRG346 Operate pressurised irrigation systems	AHCIRG332 Operate pressurised irrigation systems	Performance criteria clarified Foundation skills added Assessment requirements updated	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCIRG346 Operate pressurised irrigation systems

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 4.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit. There must be evidence that the individual has operated a pressurised irrigation system on at least two occasions and has:

- applied workplace health and safety requirements
- selected tools and equipment appropriate to the scope of works
- read and followed operations manual and procedures
- started the system and carried out operational checks
- monitored system effectiveness, including:
 - application rates
 - depth of irrigation
 - emitter output
 - irrigation times
 - pressure variations and blockages
 - salinity levels and water quality
- carried out measurements for output and distribution
- measured and interpreted flow rates and pressures
- assessed soil moisture levels
- performed shut down procedures
- recorded data.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- workplace requirements applicable to health and safety in the workplace for operating pressurised irrigation systems
- electrical hazards, including:
 - contact with pumps, motors, other live components

- short circuits
- standing laterals to remove blockages
- water spray onto power lines
- energy efficiency indicators and benchmarks for pressurised irrigation
- pressurised irrigation equipment operation and maintenance manual
- main components of pressurised irrigation systems
- pump types used in irrigation systems and their operation
- general irrigation methods for low volume systems
- principles of irrigation and the water cycle
- critical measures for moisture availability, including:
 - evapotranspiration
 - field capacity
 - infiltration rates
 - readily available water
 - water holding capacity
 - wilting point
- soil characteristics
- soil, plant and water relationships
- water requirements of plants and crops consistent with sound environmental management
- environmental impacts of irrigation using water from any ground or underground source
- shutdown sequence and flushing procedures.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - a workplace setting or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - pressurised irrigation system operation and maintenance manual
 - pressurised irrigation system equipment
 - personal protective equipment applicable to operating pressurised irrigation systems
- specifications:
 - work instructions and workplace procedures applicable to operating pressurised irrigation systems
 - pressurised irrigation system tools and equipment and procedures
 - workplace requirements applicable to health and safety in the workplace and operating pressurised irrigation systems
 - recording procedures
- relationships:
 - supervisor
- timeframes:

- according to job requirements.

Assessors of this unit must satisfy the requirements of assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

AHCLSC318 Erect timber structures and features

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to erect timber structures and features as a component of landscape project works, including preparing for work, setting out and preparing site, preparing and cutting timber components, assembling and erecting structure, checking and cleaning up site.

The unit applies to individuals who erect timber structures and features under broad direction, and take responsibility for their own work and for the quality of the work of others.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Landscape (LSC)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare work	1.1 Interpret site plan and specifications 1.2 Identify potential hazards and risks, and implement safe working practices to manage risks 1.3 Check quantity and quality of materials 1.4 Select tools and equipment required for construction work and

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	check for safe operation 1.5 Select, fit, use and maintain personal protective equipment (PPE) applicable to task
2. Set out the site and prepare the profile and footings	2.1 Determine, locate and mark out services from site plan 2.2 Mark out position of structure or feature according to design drawings and specifications 2.3 Establish profiles to conform to nominated tolerances 2.4 Excavate and prepare footings according to type of structure to be erected
3. Prepare and cut timber components	3.1 Identify and select timber according to site plan and specifications 3.2 Prepare components for assembly 3.3 Mark out length of components and positions of cuts and joints 3.4 Cut, check and accurately drill components using hand or power tools as required
4. Assemble and erect structure	4.1 Identify and select hardware 4.2 Determine if protective coating is required and, if so, select and apply 4.3 Fix, join or assemble timber components into position and fix into place 4.4 Install bracing according to site plan and specifications 4.5 Finish off structure to ensure all components are secure and complete 4.6 Apply protective treatments according to site plan and specifications
5. Check quality of work and clean-up site	5.1 Inspect quality of finished works according to site plan and specifications 5.2 Clean debris from structure and site 5.3 Dispose of or recycle waste material from site 5.4 Clean, maintain and store tools and equipment 5.5 Identify and report unserviceable tools and equipment according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Oral communication	<ul style="list-style-type: none"> Use clear language and standard industry terminology to report tool and equipment unserviceability
Numeracy	<ul style="list-style-type: none"> Calculate quantities of material, take measurements, read and use tape measures and scale rulers Set out right angles using 3:4:5 method

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCLSC318 Erect timber structures and features	AHCLSC304 Erect timber structures and features	Minor changes to application Minor changes to performance criteria Foundation skills added Assessment requirements updated	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCLSC318 Erect timber structures and features

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has erected timber structures and features on at least two occasions and has:

- interpreted site plans, design drawings and specifications
- applied workplace health and safety requirements, including fitted and used personal protective equipment (PPE)
- selected, used and maintained tools and equipment required for erecting timber structures and features
- set out and prepared site for timber structures and features
- marked out a site for timber structures and features according to site plans, design drawings and specifications
- established levels and prepared footings where required
- used levelling equipment
- excavated footings
- identified and selected timber according to site plans and specifications
- measured and marked out timber
- selected and used hand and power tools relevant to timber structures and features
- selected hardware according to site plans and specifications
- fixed, joined or assembled timbers
- applied protective treatments
- checked quality of work and cleaned up site
- reported unserviceable tools and equipment.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- principles and practices for erecting timber structures and features, including:
 - Australian standards and codes relevant to timber structures and features
 - industry standard terminology relevant to timber structures and features
 - levelling principles and techniques
 - footings for timber structures and their construction methods
 - timber fixing and joining methods and hardware products
 - timber properties, characteristics and defects
 - use of hand and power tools relevant to timber structures and features
 - protective treatments
- workplace requirements applicable to health and safety in the workplace for erecting timber structures and features, including appropriate use of PPE.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - a workplace setting or an environment that accurately represent workplace conditions
 - assessment of this competency can be conducted as part of a team working on a large group project
- resources, equipment and materials:
 - workplace procedures applicable to erecting timber structures and features
 - materials, tools and equipment applicable to erecting timber structures and features
 - PPE applicable to erecting timber structures and features
- specifications:
 - workplace requirements applicable to health and safety in the workplace for erecting timber structures and features
 - site plans, design drawings and specifications applicable to erecting timber structures and features
 - Australian standards and codes relevant to timber structures and features
- timeframes:
 - according to job requirements.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

AHCMOM202 Operate tractors

Modification History

Release	Comments
Release 3	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 3.0.
Release 2	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 2.0.
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 1.0.

Application

This unit of competency describes the skills and knowledge required to prepare for, operate and complete tractor operations under general supervision in the agriculture, horticulture and land management sectors.

Working with tractors is an inherently dangerous activity. Individuals who work at this level must be thoroughly instructed in all health and safety in the workplace aspects of operating tractors. The tractor must also comply with relevant Australian standards for tractors.

The unit applies to individuals who operate tractors to undertake routine work under general supervision with limited autonomy and accountability.

Vehicle must be operated according to relevant state/territory licensing authority vehicle licence requirements and regulations.

No occupational licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Machinery operation and maintenance (MOM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare tractor for operation	1.1 Confirm with supervisor activity to be undertaken, including identifying potential hazards and risks and implementing safe working practices to manage risks 1.2 Source and interpret machinery operation and maintenance manual and manufacturer instructions for tractor operation 1.3 Select and maintain personal protective equipment and safety equipment according to workplace safety requirements 1.4 Fit and use personal protective equipment according to job requirements and task to be undertaken 1.5 Select and attach equipment as directed by supervisor 1.6 Conduct tractor routine pre-operational checks according to operation and maintenance manual and report faults or malfunctions to supervisor
2. Operate tractor	2.1 Carry out pre-start and start up procedures required for tractor operation 2.2 Drive and operate tractor in a smooth and controlled manner 2.3 Apply workplace environmental and biosecurity procedures associated with tractor operation and minimise impact 2.4 Continually monitor hazards and risks, and ensure safety of self, other personnel, plant and equipment 2.5 Complete work according to agreed plan as directed by supervisor 2.6 Report abnormal monitoring system indicators and alarms to supervisor
3. Complete tractor operation	3.1 Park tractor and conduct shut down procedures 3.2 Perform routine operational servicing according to the operation and maintenance manual 3.3 Report malfunctions, faults, irregular performance or damage to supervisor 3.4 Clean, decontaminate, secure and store tractor and attached equipment 3.5 Remove and store keys in the required location 3.6 Maintain tractor and equipment use records in required format

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret textual information from a range of sources to identify relevant and key information about workplace operations
Writing	<ul style="list-style-type: none"> Document tractor and equipment use
Oral communication	<ul style="list-style-type: none"> Use clear language to report malfunctions, faults, irregular performance or damage Participate in verbal exchanges to respond to questions and clarify instructions
Numeracy	<ul style="list-style-type: none"> Calculate quantities of vehicle fluids including fuel Identify correct tyre pressure or track tension
Navigate the world of work	<ul style="list-style-type: none"> Recognise and follow workplace requirements, including safety requirements, associated with own role and area of responsibility

Range of Conditions

This section specifies different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Pre-operational checks must include:	<ul style="list-style-type: none"> maintenance interval schedule daily check machine damage and serviceability guards are in place and undamaged checking for missing parts fluid leaks and levels fuel level brakes and clutch operation condition of tyres or tracks machine controls.
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Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCMOM202 Operate tractors Release 3	AHCMOM202 Operate tractors Release 2	Minor changes to performance criteria, foundation skills and range of conditions	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCMOM202 Operate tractors

Modification History

Release	Comments
Release 3	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 3.0.
Release 2	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 2.0.
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 1.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit. There must be evidence that the individual has prepared for, safely operated and completed tractor operations under general supervision at least once and has:

- identified and reported hazards and implemented safe operating procedures
- carried out tractor pre-operational checks and reported faults to supervisor
- driven and operated a tractor safely, in a smooth and controlled manner
- operated tractors in even and uneven terrain conditions
- carried out tractor shut down procedures
- maintained tractor use records and reported faults or malfunctions
- minimised environmental impacts associated with tractor operation
- followed workplace health and safety procedures for safe tractor operation
- followed industry and workplace biosecurity procedures.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- tractor components, controls and features and operational functions
- tractor operation and maintenance manuals
- tractor steering systems and features
- features, operational functions and procedures for attached equipment
- load limits and the principles of weight distribution with regard to load shifting and tractor movement
- distinguishing characteristics of individual tractors including rated performance capacities

- effects of various surface and difficult terrain conditions on tractor operation
- duty of care to self, others and the environment
- relevant legislation with regard to tractor operation and licensing requirements
- environmental impacts relevant to operation of vehicles
- health and safety in the workplace requirements to operate a tractor safely
- industry and workplace biosecurity procedures.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - a workplace setting or an environment that accurately represents workplace conditions
 - individual must not be under the influence of alcohol or drugs
 - individual must not be taking any medication (prescribed or otherwise) that may impair judgement
 - individual must not be in a fatigued state when operating the machinery
- resources, equipment and materials:
 - tractors
 - safety equipment and personal protective equipment applicable to the task being undertaken
- specifications:
 - tractor operation and maintenance manual
 - industry and workplace biosecurity procedures applicable to tractor operation
 - legislation relevant to tractor operation and licensing requirements
- timeframes:
 - according to the job requirements.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

AHCMOM207 Conduct front-end loader operations

Modification History

Release	Comments
Release 2	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 3.0.
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 1.0.

Application

This unit of competency describes the skills and knowledge required to prepare for, carry out and shut down front-end loader operations in an agricultural environment.

The unit applies to individuals who conduct front-end loader operations to undertake routine work under general supervision with limited autonomy and accountability.

Vehicle must be operated according to relevant state/territory licensing authority vehicle licence requirements and regulations.

No occupational licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Machinery operation and maintenance (MOM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for front-end loader operation	1.1 Confirm with supervisor activity to be undertaken, including identifying potential hazards and risks and implementing safe working

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>practices to manage risks</p> <p>1.2 Source and interpret front-end loader operation and maintenance manual and manufacturer instructions</p> <p>1.3 Assess the work-site and confirm suitability of the machinery and equipment for the task</p> <p>1.4 Select and maintain personal protective equipment according to workplace safety requirements</p> <p>1.5 Fit and use personal protective equipment and confirm safety equipment applicable to the task being undertaken</p> <p>1.6 Conduct front-end loader routine pre-operational checks according to operation and maintenance manual and report faults or malfunctions to supervisor for repair</p> <p>1.7 Observe safety rules and regulations, including site rules and legislation and site specific instructions</p>
2. Operate front-end loader	<p>2.1 Carry out pre-start, and start up procedures according to health and safety in the workplace guidelines</p> <p>2.2 Drive and operate front-end loader, and modify operating technique to meet changing work conditions</p> <p>2.3 Select loading technique and modify where required to meet changing work conditions</p> <p>2.4 Use attachments according to manufacturer instructions and site requirements</p> <p>2.5 Continually monitor hazards and risks, and ensure safety of self, other personnel, plant and equipment</p> <p>2.6 Identify environmental and biosecurity implications associated with front-end loader operation and minimise impact</p> <p>2.7 Complete work task according to the agreed plan and within the operating capacity of the equipment and operator</p>
3. Complete front-end loader operation	<p>3.1 Park front-end loader and conduct shut down procedures</p> <p>3.2 Perform routine operational servicing and minor maintenance according to front-end loader operation and maintenance manual</p> <p>3.3 Identify and report malfunctions, faults, irregular performance or damage to supervisor</p> <p>3.4 Clean, secure and store front-end loader</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	3.5 Remove and store keys in the required location 3.6 Maintain front-end loader use records in required format

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret textual information from a range of sources to identify relevant and key information about workplace operations
Writing	<ul style="list-style-type: none"> Document front-end loader use
Oral communication	<ul style="list-style-type: none"> Use clear language to report malfunctions, faults, irregular performance or damage Participate in verbal exchanges to respond to questions and clarify information
Numeracy	<ul style="list-style-type: none"> Calculate quantities of vehicle fluids including fuel Identify correct tyre pressure or track tension
Navigate the world of work	<ul style="list-style-type: none"> Recognise and follow workplace requirements, including safety requirements, associated with own role and area of responsibility

Range of Conditions

This section specifies different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Pre-operational checks must include:	<ul style="list-style-type: none"> maintenance interval schedule daily check machine damage and serviceability checking for missing parts fluid leaks and levels
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	<ul style="list-style-type: none"> • fuel level • brakes and clutch operation • condition of tyres or tracks • machine controls.
Attachments must include at least one of the following:	<ul style="list-style-type: none"> • bale fork • bucket • bull blades • log fork • pallet fork • S Houle rock bucket • silage fork.
Biosecurity implications must include:	<ul style="list-style-type: none"> • control of cross-site contamination.

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCMOM207 Conduct front-end loader operations Release 2	AHCMOM207 Conduct front-end loader operations Release 1	Minor changes to performance criteria, foundation skills and range of conditions	Equivalent unit

Links

Companion Volumes, including Implementation Guides are available at VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCMOM207 Conduct front-end loader operations

Modification History

Release	Comments
Release 2	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 3.0.
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 1.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit. There must be evidence that the individual has prepared for, carried out and shut down front-end loader operations at least once and has demonstrated the following:

- identified hazards and implemented safe operating procedures for front-end loader operations
- carried out front-end loader pre-operational checks for safe front-end loader operations
- driven and operated a front-end loader safely and modified operating technique to meet changing work conditions
- operated front-end loader features and attachments consistent with operation and maintenance manual and manufacturer specifications
- carried out front-end loader shut down procedures including securing and safe storage of front-end loader
- minimised environmental impacts associated with front-end loader operation
- followed workplace health and safety procedures while undertaking pre-operational checks, operational and shut down procedures for the front-end loader
- followed industry and workplace biosecurity procedures
- completed required documentation for front-end loader use.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- hazards and risks associated with front-end loader operations
- front-end loader site safety requirements
- front-end loader components, controls, features, technical capabilities and limitations

- front-end loader operation and maintenance manual
- duty of care to self, others and the environment when operating a front-end loader
- relevant legislation with regard to front-end loader operation and licensing requirements
- environmental impacts relevant to the operation of front-end loaders
- workplace procedures applicable to health and safety in the workplace requirements to operate a front-end loader safely
- industry and workplace biosecurity procedures.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - a workplace setting or an environment that accurately represents workplace conditions
 - individual must not be under the influence of alcohol or drugs
 - individual must not be taking any medication (prescribed or otherwise) that may impair judgement
 - individual must not be in a fatigued state when operating the machinery
- resources, equipment and materials:
 - front-end loaders
 - attachments
 - safety equipment and personal protective equipment applicable to the task being undertaken
- specifications:
 - front-end loader operation and maintenance manuals
 - industry and workplace biosecurity procedures applicable to front-end loader operation
 - legislation relevant to front-end loader operation and licensing requirements
- timeframes:
 - according to the job requirements.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides are available at VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

AHCMOM208 Conduct excavator operations

Modification History

Release	Comments
Release 2	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 3.0.
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 1.0.

Application

This unit of competency describes the skills and knowledge required to prepare for, carry out and shut down excavator operations in an agricultural environment.

The unit applies to individuals who conduct excavator operations to undertake routine work under general supervision with limited autonomy and accountability.

Vehicle must be operated according to relevant state/territory licensing authority vehicle licence requirements and regulations.

No occupational licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Machinery operation and maintenance (MOM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for excavator operation	1.1 Confirm with supervisor activity to be undertaken, including identifying potential hazards and risks and implementing safe working

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>practices to manage risks</p> <p>1.2 Source and interpret excavator operation and maintenance manual and observe manufacturer instructions</p> <p>1.3 Assess the work site and confirm the suitability of the machinery for the task</p> <p>1.4 Select and maintain personal protective equipment according to workplace safety requirements</p> <p>1.5 Fit and use personal protective equipment and confirm safety equipment applicable to the task being undertaken</p> <p>1.6 Conduct excavator routine pre-operational checks according to operation and maintenance manual and report faults or malfunctions to supervisor for repair</p> <p>1.7 Observe safety rules and regulations, including site rules and legislation and site specific instructions</p>
2. Operate excavator	<p>2.1 Carry out pre-start, and start up procedures according to health and safety in the workplace guidelines</p> <p>2.2 Drive and operate excavator, and modify the operating technique to meet changing work conditions</p> <p>2.3 Continually monitor hazards and risks, and ensure safety of self, other personnel, plant and equipment</p> <p>2.4 Identify environmental and biosecurity implications associated with excavator operation and minimise impact</p> <p>2.5 Complete work task according to the agreed plan and within the operating capacity of the equipment and operator</p>
3. Complete excavator operation	<p>3.1 Park excavator and conduct shut down procedures</p> <p>3.2 Perform routine operational servicing and minor maintenance according to excavator operation and maintenance manual</p> <p>3.3 Identify and report malfunctions, faults, irregular performance or damage to supervisor</p> <p>3.4 Clean, secure and store excavator in line with workplace practices</p> <p>3.5 Remove and store keys in the required location</p> <p>3.6 Maintain excavator use records in required format</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret textual information from a range of sources to identify relevant and key information about workplace operations
Writing	<ul style="list-style-type: none"> Document excavator use
Oral communication	<ul style="list-style-type: none"> Use clear language to report malfunctions, faults, irregular performance or damage Participate in verbal exchanges to respond to questions and clarify information
Numeracy	<ul style="list-style-type: none"> Calculate quantities of vehicle fluids including fuel Identify correct tyre pressure or track tension
Navigate the world of work	<ul style="list-style-type: none"> Recognise and follow workplace requirements, including safety requirements, associated with own role and area of responsibility

Range of Conditions

This section specifies different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Pre-operational checks must include:	<ul style="list-style-type: none"> maintenance interval schedule daily check machine damage and serviceability checking for missing parts fluid leaks and levels fuel level brakes and clutch operation condition of tyres or tracks machine controls.
Biosecurity implications must include:	<ul style="list-style-type: none"> control of cross site contamination.

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCMOM208 Conduct excavator operations Release 2	AHCMOM208 Conduct excavator operations Release 1	Minor changes to performance criteria, foundation skills and range of conditions	Equivalent unit

Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCMOM208 Conduct excavator operations

Modification History

Release	Comments
Release 2	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 3.0.
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 1.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit. There must be evidence that the individual has prepared for, carried out and shut down excavator operations at least once and has demonstrated the following:

- identified hazards and implemented safe operating procedures for excavator operations
- carried out excavator pre-operational checks for safe excavator operation
- driven and operated an excavator safely including modifying operating technique to meet changing work conditions
- carried out excavator shut down procedures including securing and safe storage of excavator
- minimised environmental impacts associated with excavator operation
- followed workplace health and safety procedures while undertaking pre-operational checks, operational and shut down procedures for the excavator
- followed industry and workplace biosecurity procedures
- completed required documentation for excavator use.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- hazards and risks associated with excavator operations
- excavator and site safety requirements
- excavator components, controls, features, technical capabilities and limitations
- excavator operation and maintenance manual
- duty of care to self, others and the environment when operating an excavator
- relevant legislation with regard to excavator operation and licensing requirements
- environmental impacts relevant to the operation of excavators

- workplace procedures applicable to health and safety in the workplace requirements to operate an excavator safely
- industry and workplace biosecurity procedures.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - a workplace setting or an environment that accurately represents workplace conditions
 - individual must not be under the influence of alcohol or drugs
 - individual must not be taking any medication (prescribed or otherwise) that may impair judgement
 - individual must not be in a fatigued state when operating the machinery
- resources, equipment and materials:
 - excavators
 - safety equipment and personal protective equipment applicable to the task being undertaken
- specifications:
 - excavator operation and maintenance manuals
 - industry and workplace biosecurity procedures applicable to excavator operation
 - legislation relevant to excavator operation and licensing requirements
- timeframes:
 - according to the job requirements.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

AHCMOM209 Conduct dozer operations

Modification History

Release	Comments
Release 2	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 3.0.
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 1.0.

Application

This unit of competency describes the skills and knowledge required to prepare for, carry out and shut down dozer operations in an agricultural environment.

The unit applies to individuals who conduct dozer operations to undertake routine work under general supervision with limited autonomy and accountability.

Vehicle must be operated according to relevant state/territory licensing authority vehicle licence requirements and regulations.

No occupational licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Machinery operation and maintenance (MOM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for dozer operation	1.1 Confirm with supervisor activity to be undertaken, including identifying potential hazards and risks and implementing of safe

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>working practices to manage risks</p> <p>1.2 Source and interpret dozer operation and maintenance manual and manufacturer instructions</p> <p>1.3 Assess the work-site and confirm the suitability of the machinery for the task</p> <p>1.4 Select and maintain personal protective equipment according to workplace safety requirements</p> <p>1.5 Fit and use personal protective equipment and confirm safety equipment applicable to the task being undertaken</p> <p>1.6 Conduct dozer routine pre-operational checks according to operation and maintenance manual and report faults or malfunctions to supervisor for repair</p> <p>1.7 Observe safety rules and regulations, including site rules and legislation and site specific instructions</p>
2. Operate dozer	<p>2.1 Carry out pre-start, and start up procedures according to health and safety in the workplace guidelines</p> <p>2.2 Drive and operate dozer, and modify the operating technique to meet changing work conditions</p> <p>2.3 Continually monitor hazards and risks, and ensure safety of self, other personnel, plant and equipment</p> <p>2.4 Identify environmental and biosecurity implications associated with dozer operation and minimise impact</p> <p>2.5 Complete work task according to the agreed plan and within the operating capacity of the equipment and operator</p>
3. Complete dozer operation	<p>3.1 Park dozer and conduct shut down procedures</p> <p>3.2 Perform routine operational servicing and minor maintenance according to dozer operation and maintenance manual</p> <p>3.3 Identify and report malfunctions, faults, irregular performance or damage to supervisor</p> <p>3.4 Clean, secure and store dozer in line with workplace practices</p> <p>3.5 Remove and store keys in the required location</p> <p>3.6 Maintain dozer use records in required format</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret textual information from a range of sources to identify relevant and key information about workplace operations
Writing	<ul style="list-style-type: none"> Document dozer use
Oral communication	<ul style="list-style-type: none"> Use clear language to report malfunctions, faults, irregular performance or damage Participate in verbal exchanges to respond to questions and clarify information
Numeracy	<ul style="list-style-type: none"> Calculate quantities of vehicle fluids including fuel Identify correct tyre pressure or track tension
Navigate the world of work	<ul style="list-style-type: none"> Recognise and follow workplace requirements, including safety requirements, associated with own role and area of responsibility

Range of Conditions

This section specifies different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Pre-operational checks must include:	<ul style="list-style-type: none"> maintenance interval schedule daily check machine damage and serviceability checking for missing parts fluid leaks and levels fuel level brakes and clutch operation condition of tyres or tracks machine controls.
Biosecurity implications must include:	<ul style="list-style-type: none"> control of cross-site contamination.

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCMOM209 Conduct dozer operations Release 2	AHCMOM209 Conduct dozer operations Release 1	Minor changes to performance criteria, foundation skills and range of conditions	Equivalent unit

Links

Companion Volumes, including Implementation Guides are available at VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCMOM209 Conduct dozer operations

Modification History

Release	Comments
Release 2	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 3.0.
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 1.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit. There must be evidence that the individual has prepared for, carried out and shut down dozer operations at least once and has demonstrated the following:

- identified hazards and implemented safe operating procedures for dozer operations
- carried out dozer pre-operational checks for safe dozer operation
- driven and operated a dozer safely including modifying operating technique to meet changing work conditions
- carried out dozer shut down procedures including securing and storage of dozer
- minimised environmental impacts associated with dozer operation
- followed workplace health and safety procedures while undertaking pre-operational checks, operational and shut down procedures for the dozer
- followed industry and workplace biosecurity procedures
- completed required documentation for loader use.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- hazards and risks associated with dozer operations
- dozer and site safety requirements
- dozer components, controls, features, technical capabilities and limitations
- dozer operation and maintenance manual
- duty of care to self, others and the environment
- relevant legislation with regard to dozer operation and licensing requirements
- environmental impacts relevant to the operation of dozers

- workplace procedures applicable to health and safety in the workplace requirements to operate dozer safely
- industry and workplace biosecurity procedures.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - a workplace setting or an environment that accurately represents workplace conditions
 - individual must not be under the influence of alcohol or drugs
 - individual must not be taking any medication (prescribed or otherwise) that may impair judgement
 - individual must not be in a fatigued state when operating the machinery
- resources, equipment and materials:
 - dozers
 - safety equipment and personal protective equipment applicable to the task being undertaken
- specifications:
 - dozer operation and maintenance manuals
 - industry and workplace biosecurity procedures applicable to dozer operation
 - legislation relevant to dozer operation and licensing requirements
- timeframes:
 - according to the job requirements.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides are available at VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

AHCMOM216 Operate side by side utility vehicles

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 3.0.

Application

This unit of competency describes the skills and knowledge required to safely operate a side by side utility vehicle including undertaking pre-start checks and shut down procedures.

The unit applies to individuals who operate side by side utility vehicles to undertake routine work under general supervision with limited autonomy and accountability.

Vehicle must be operated according to relevant state/territory licensing authority vehicle licence requirements and regulations.

No occupational licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Machinery operation and maintenance (MOM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1.Prepare side by side utility vehicle for use	<p>1.1 Confirm with supervisor activity to be undertaken, including identifying potential hazards and risks and implementing safe working practices to manage risks</p> <p>1.2 Conduct routine pre-operational checks on the vehicle according to operators manual and report faults or malfunctions for repair</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.3 Select and maintain personal protective equipment according to workplace safety requirements</p> <p>1.4 Use, wear and correctly fit personal protective equipment including helmets that are fit for purpose according to operators manual</p> <p>1.5 Attach equipment and loads that do not exceed the weight limitations of the vehicle</p> <p>1.6 Secure loads to ensure safe transport</p>
2. Operate side by side utility vehicle	<p>2.1 Start up, steer, manoeuvre, position and stop side by side utility vehicle in a controlled manner</p> <p>2.2 Identify environmental and biosecurity implications associated with side by side utility vehicle operation and minimise impact of vehicle use</p> <p>2.3 Apply side by side utility vehicle driver skills</p> <p>2.4 Operate side by side utility vehicles in accordance with task requirements, conditions and operators manual</p> <p>2.5 Identify and avoid riding surfaces, terrains and slopes that are dangerous to safe operation</p> <p>2.6 Operate and manoeuvre over a variety of surfaces, slopes and terrain to minimise risk to safety</p> <p>2.7 Modify side by side utility vehicle operation according to local weather conditions</p> <p>2.8 Ensure that vehicle seat belts and other safety features are functional and correctly fitted</p>
3. Complete side by side utility vehicle operation	<p>3.1 Shut down side by side utility vehicle</p> <p>3.2 Identify and report malfunctions, faults, irregular performance or damage to supervisor</p> <p>3.3 Park and secure side by side utility vehicle</p> <p>3.4 Remove and store keys in the required location</p> <p>3.5 Unload, load and secure side by side utility vehicle safely</p> <p>3.6 Maintain vehicle use records for servicing purposes in line with workplace practices</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret textual information from a range of sources to identify relevant and key information about workplace operations
Oral communication	<ul style="list-style-type: none"> Use clear language to report malfunctions, faults and irregular performance or damage Participate in verbal exchanges to respond to questions and clarify information
Numeracy	<ul style="list-style-type: none"> Calculate quantities of vehicle fluids including oil and fuel Calculate load volumes and weights Identify correct tyre pressure
Navigate the world of work	<ul style="list-style-type: none"> Recognise and follow workplace requirements, including safety requirements, associated with own role and area of responsibility

Range of Conditions

This section specifies different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Pre-operational checks must include:	<ul style="list-style-type: none"> vehicle damage and serviceability fuel brakes tyres including pressure and condition vehicle controls.
Personal protective equipment must include:	<ul style="list-style-type: none"> a suitable helmet according to operators manual enclosed toe shoes
Side by side utility vehicle driver skills must include:	<ul style="list-style-type: none"> parking across the slope when parking on a hill or gradient on-board weight distribution load security crossing obstacles avoiding hazards.
Safety features must include at least three of	<ul style="list-style-type: none"> roll-over protective structure seat belts

the following:	<ul style="list-style-type: none"> • side nets • doors • occupant hand holds • tyre selection and inflation pressure.
Unload, load and secure side by side utility vehicle must include at least one of the following:	<ul style="list-style-type: none"> • trailer • transportation device • on site vehicle storage.

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCMOM216 Operate side by side utility vehicles	AHCMOM211 Operate side by side utility vehicles	Significant changes to performance criteria, foundation skills and range of conditions	No equivalent unit

Links

Companion Volumes, including Implementation Guides are available at VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCMOM216 Operate side by side utility vehicles

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 3.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit. There must be evidence that the individual has safely operated a side by side utility vehicle on at least two riding surface conditions and on an even, uneven and sloping terrain and has:

- identified hazards and risks associated with side by side utility vehicle use
- identified and avoided driving surfaces, terrains and slopes that are dangerous to safe operation of side by side utility vehicles
- selected and worn side by side utility vehicle helmet that is fit for purpose according to operators manual
- selected, fitted and used other personal protective equipment that is required for the task
- maintained personal protective equipment in suitable condition for use
- unloaded the side by side utility vehicle safely and checked it is safe to use
- operated and manoeuvred side by side utility vehicles in different surface and terrain conditions including uneven and sloping terrain
- started, steered, manoeuvred, positioned and stopped a side by side utility vehicle in a controlled manner
- selected appropriate modes of operation and applied side by side utility vehicle driver skills to assist vehicle stability
- parked the side by side utility vehicle safely and checked for any damage, malfunctions or faults
- loaded and secured side by side utility vehicle safely
- minimised environmental impacts associated with side by side utility vehicle operation
- followed industry and workplace biosecurity procedures.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- hazards and risks associated with side by side utility vehicle areas of operation

- components, controls, modes and features of side by side utility vehicles and their functions
- side by side utility vehicle functional applications, including:
 - occupant hand holds, correct use, importance of reach and keeping body parts inside vehicle
 - roll-over protective structure
 - tyre selection and inflation pressure
 - side nets and doors
- operating principles and operating methods of side by side utility vehicles
- workplace safety plan for operating and maintaining side by side utility vehicles
- side by side utility vehicle operator's manual
- side by side utility vehicle driver skills, including higher level two foot pedal operation skills, for technical applications
- effects of different surfaces and terrain conditions on the operation of side by side utility vehicle
- load limits and attachments specific to side by side utility vehicle capabilities and the effects to dynamic stability of the side by side utility vehicle including:
 - weight distribution
 - load security
 - liquid or shifting loads
 - effect of load when operating on uneven or steep terrain
- loading and unloading safely from a trailer, transportation device and site storage, including use of:
 - tie down devices
 - vehicle ramps
 - loading surfaces and angle
- variations in state/territory regulations and legislation that may apply in regard to side by side utility vehicle use
- environmental impacts associated with operating side by side utility vehicles and consequences of substandard environmental and biosecurity practices
- industry and workplace biosecurity procedures.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - a workplace setting or an environment that accurately represents workplace conditions
 - helmets must be worn whilst operating side by side utility vehicles according to operators manual
- resources, equipment and materials:
 - side by side utility vehicle
 - vehicle fuel

- side by side utility vehicle helmet as identified by operator manual
- enclosed toe shoes
- specifications:
 - side by side utility vehicle manufacturer specifications and operator manuals
 - industry and workplace biosecurity procedures applicable to side by side utility vehicle operation
- timeframes:
 - according to the job requirements.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides are available at VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

AHCMOM301 Coordinate machinery and equipment maintenance and repair

Modification History

Release	Comments
Release 2	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 3.0.
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 1.0.

Application

This unit of competency describes the skills and knowledge required to coordinate the maintenance and repair of machinery and equipment used principally in agriculture, horticulture, and conservation and land management work.

The unit applies to individuals who coordinate machinery and equipment maintenance and repair under broad direction, and take responsibility for their own work.

No occupational licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Machinery operation and maintenance (MOM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for maintenance and repair work	1.1 Clarify requirements of the work responsibilities with the supervisor 1.2 Identify equipment and material resource requirements according

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>to the scope of the coordination work and supervisor instructions</p> <p>1.3 Identify, document and present the priorities for maintenance and repair activities and time allocation to the supervisor for verification</p> <p>1.4 Identify the environmental implications of the proposed maintenance and repair work and assess and report potential impacts to the supervisor</p> <p>1.5 Identify workplace hazards, assess risks and implement risk controls</p> <p>1.6 Select, fit, use and maintain personal protective equipment according to job requirements and task to be undertaken</p>
<p>2. Coordinate maintenance and repair of machinery and equipment</p>	<p>2.1 Purchase, store and use materials to assist in maintenance and repair work</p> <p>2.2 Organise delivery of materials to the site according to maintenance requirements</p> <p>2.3 Organise machinery and equipment required for maintenance and repair to be on site and in good order when they are required</p> <p>2.4 Identify and organise routine maintenance and repairs of machinery and equipment and facilitate repairs that require specialist attention</p>
<p>3. Coordinate and report on maintenance and repair activities</p>	<p>3.1 Coordinate staff and resources to suit the maintenance and repair activities and priority of work</p> <p>3.2 Inform operators of their responsibilities in respect to operational maintenance requirements of machinery and equipment</p> <p>3.3 Monitor personnel and document activities, timelines and materials usage</p> <p>3.4 Recognise and report contingency situations to the supervisor and adjust schedules accordingly</p> <p>3.5 Document and report maintenance and repair activities undertaken and completed to relevant personnel</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret textual information from a range of sources to identify relevant and key information about workplace operations
Writing	<ul style="list-style-type: none"> Legibly and accurately fill out workplace documentation when recording activities, timelines and materials usage
Oral communication	<ul style="list-style-type: none"> Use clear language to report service or repair requirements
Numeracy	<ul style="list-style-type: none"> Calculate quantities of material and resource requirements, including; fuels, oils, cleaning agents, solvents and chemicals Calculate maintenance and repair time allocation
Navigate the world of work	<ul style="list-style-type: none"> Recognise and follow workplace requirements, including safety requirements, associated with own role and area of responsibility

Range of Conditions

This section specifies different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Material resource requirements must include at least two of the following:	<ul style="list-style-type: none"> tools fuel oil cleaning agents solvents chemicals.
Personal protective clothing and equipment must include:	<ul style="list-style-type: none"> enclosed toe shoes safety glasses/goggles.
Contingency situations must include at least one of the following:	<ul style="list-style-type: none"> delays in delivery of equipment or machinery machinery or equipment breakdowns poor weather conditions poor quality materials unforeseen problems.

Unit Mapping Information

Code and title	Code and title	Comments	Equivalence status
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current version	previous version		
AHCMOM301 Coordinate machinery and equipment maintenance and repair Release 2	AHCMOM301 Coordinate machinery and equipment maintenance and repair Release 1	Minor changes to performance criteria and range of conditions	Equivalent unit

Links

Companion Volumes, including Implementation Guides are available at VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCMOM301 Coordinate machinery and equipment maintenance and repair

Modification History

Release	Comments
Release 2	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 3.0.
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 1.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit. There must be evidence that the individual has coordinated maintenance and repair of machinery and equipment for a small enterprise and has:

- identified workplace hazards, assessed risks and implemented safe workplace procedures
- interpreted documentation associated with work site activities
- sought specialist advice on repairs requiring specialist attention
- established priorities for repair and maintenance work to be carried out
- co-ordinated staff and resources to achieve work priorities
- minimised environmental impacts of machinery and equipment maintenance and repair activities
- responded to contingencies and taken corrective actions where necessary
- documented activities, timelines and material usage
- applied workplace health and safety procedures when organising and conducting maintenance and repair activities.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- work schedule programming
- possible causes of disruption to work activities and their effect on quality and time schedules
- responsibilities and requirements for maintaining and repairing machinery and equipment
- range, use and availability of materials, equipment and machinery required for the project
- environmental impacts of machinery and equipment maintenance and repair work and disposal of fuels, oils and other wastes

- workplace procedures applicable to health and safety in the workplace, and machinery and equipment maintenance and repair.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - a workplace setting or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - machinery and equipment
 - maintenance tools and equipment
 - material resources
 - safety equipment and personal protective equipment applicable to the task being undertaken
- specifications:
 - machinery operation and maintenance manual
 - workplace procedures applicable to health and safety in the workplace and machinery maintenance
- timeframes:
 - according to the job requirements.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides are available at VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

AHCMOM306 Ground spread fertiliser and soil ameliorant

Modification History

Release	Comments
Release 2	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 3.0.
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 1.0.

Application

This unit of competency describes the skills and knowledge required to prepare and undertake activities required to ground spread fertiliser and soil ameliorants.

This unit applies to individuals who apply industry codes of practice and operating principles to ground spread fertiliser and soil ameliorants under broad direction, and take responsibility for their own work.

All work must be carried out to comply with workplace procedures, health and safety in the workplace requirements, legislative and regulatory requirements, manufacturer specifications, sustainability and biosecurity practices.

No occupational licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Machinery operation and maintenance (MOM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Confirm customer	1.1 Confirm with customer that fertiliser or soil ameliorant products to

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
requirements	<p>be spread are consistent with customer order</p> <p>1.2 Verify with customer that technical specification of products are acceptable for job</p> <p>1.3 Confirm fertiliser order documentation with customer to enable depot and factory traceability</p> <p>1.4 Document spreading services agreement according to workplace requirements and industry code of practice</p>
2. Identify features of target area	<p>2.1 Identify and agree with customer on the location and boundaries of area to be treated and document according to workplace requirements and industry code of practice</p> <p>2.2 Visually assess soil type and condition or seek advice from customer</p> <p>2.3 Identify environmentally sensitive areas and plan operations to ensure minimum adverse impact and compliance with required buffer zones</p> <p>2.4 Inspect and identify features that present a hazard to the operation, consult with customer and take appropriate action to minimise risks</p> <p>2.5 Identify the location of services and utilities in consultation with customer and adjust proposed spreading operation</p> <p>2.6 Identify local weather and climate conditions and take into account potential impacts when preparing for operation</p>
3. Perform pre-spreading checks	<p>3.1 Determine rate of spreading and calculate buffer zone allowance</p> <p>3.2 Ensure machinery and equipment are clean of soil and/or plant material before it is moved onto site</p> <p>3.3 Prepare, set up, calibrate and confirm serviceability of machinery and equipment according to workplace procedures and manufacturer instructions</p>
4. Spread products	<p>4.1 Select and maintain personal protective equipment to be used by operator and all personnel involved in spreading tasks</p> <p>4.2 Fit and use personal protective equipment according to job requirements and task to be completed</p> <p>4.3 Apply fertiliser or soil ameliorant in a manner that complies with guidelines on buffer zones and minimises run off into waterways and drains</p> <p>4.4 Monitor meteorological conditions before and during application</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>and modify operations as required</p> <p>4.5 Identify environmental and biosecurity implications associated with fertiliser or ameliorant application and minimise impact</p> <p>4.6 Follow any existing site quarantine or biosecurity protocols</p> <p>4.7 Continually monitor workplace hazards and risks, and ensure safety of self, other personnel and equipment</p>
5. Shut down equipment and undertake maintenance requirements	<p>5.1 Conduct shut down procedures required for ground spread of fertiliser and ameliorant equipment</p> <p>5.2 Clean and check serviceability of machinery, equipment and hand tools</p> <p>5.3 Perform basic preventative maintenance</p> <p>5.4 Record faults for remedial action according to workplace procedures</p> <p>5.5 Return machinery, equipment and hand tools to depot or storage area according to workplace procedures</p> <p>5.6 Complete operational records according to workplace procedures and industry code of practice</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret textual information, including maps to identify relevant and key information about workplace operations
Writing	<ul style="list-style-type: none"> Document fertiliser and soil ameliorant order and spreading services agreement Complete operational records
Oral communication	<ul style="list-style-type: none"> Use clear language to confirm with customer fertiliser or soil ameliorant products for spreading prior to use Participate in verbal exchanges to respond to questions and clarify information

Skill	Description
Numeracy	<ul style="list-style-type: none"> Record quantities of fertiliser and soil ameliorant
Navigate the world of work	<ul style="list-style-type: none"> Recognise and follow workplace requirements, including safety requirements, associated with own role and area of responsibility
Interact with others	<ul style="list-style-type: none"> Use appropriate language and communication skills to disseminate information to operator and personnel involved in spreading tasks about location of spreading services, buffer zones and personal protective equipment for operators and other personnel

Range of Conditions

This section specifies different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Machinery must include at least one of the following:	<ul style="list-style-type: none"> tractors other drive equipment.
Personal protective clothing and equipment must include:	<ul style="list-style-type: none"> protective clothing respirators protective eyewear unlined rubber or plastic gloves neoprene or nitrile boots.
Biosecurity implications must include:	<ul style="list-style-type: none"> control of cross-site contamination.

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCMOM306 Ground spread fertiliser and soil ameliorant Release 2	AHCMOM306 Ground spread fertiliser and soil ameliorant Release 1	Minor changes to performance criteria, foundation skills and range of conditions	Equivalent unit

Links

Companion Volumes, including Implementation Guides are available at VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCMOM306 Ground spread fertiliser and soil ameliorant

Modification History

Release	Comments
Release 2	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 3.0.
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 1.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit. There must be evidence that the individual has safely operated fertiliser and soil ameliorant spreading equipment and machinery at least once and has:

- identified hazards and implemented safe workplace practices and procedures
- assessed environmental and physical hazards that may be encountered when undertaking ground spreading operations and taken appropriate action to minimise risks
- communicated with clients to ensure a common understanding and agreement of task to be undertaken
- used maps and interpreted written instructions regarding areas to be spread including types of products and application rates
- maintained, calibrated and operated ground spreading equipment according to operation and maintenance manual, manufacturer specifications and in line with industry standards for uniformity of application
- monitored weather conditions during ground spreading operations and adjusted operations to minimise risk to local environment and personnel in the vicinity
- minimised environmental impacts associated with fertiliser and soil ameliorant application including attention to buffer zones and run-off
- applied fertiliser or soil ameliorants at rate agreed by customer to specified land area
- implemented shut down procedures including cleaning, securing, and safe storage of machinery
- completed operational and equipment maintenance records according to workplace procedures
- followed industry and workplace biosecurity procedures.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- hazards and risks associated with fertiliser and soil ameliorant application, and machinery and equipment operation
- fertiliser and soil ameliorant machinery and equipment operating components, controls, features, technical capabilities and limitations
- operational limits of equipment with regard to uniformity of application and potential health and safety implications
- spreading characteristics of different fertiliser and soil ameliorant products
- environmental impacts associated with fertiliser spreading including hazards to waterways
- purpose of buffer zones
- methods of monitoring local weather conditions and the effects of changes on ground spreading activities
- operating principles and operating methods of fertiliser and soil ameliorant machinery and equipment
- procedures for cleaning, securing and storing fertiliser and soil ameliorant machinery, equipment and tools
- workplace procedures applicable to fertiliser and soil ameliorant application
- workplace procedures applicable to health and safety in the workplace and fertiliser and soil ameliorant application, and fertiliser and soil ameliorant machinery and equipment
- industry and workplace biosecurity procedures.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - a workplace setting or an environment that accurately represents workplace conditions
 - individual must not be under the influence of alcohol or drugs
 - individual must not be taking any medication (prescribed or otherwise) that may impair judgement
 - individual must not be in a fatigued state when operating fertiliser and soil ameliorant machinery
- resources, equipment and materials:
 - fertiliser and soil ameliorant machinery, equipment and tools
 - fertiliser or soil ameliorant products
 - protective clothing
 - respirators
 - protective eyewear
 - unlined rubber or plastic gloves
 - neoprene or nitrile boots

- safety equipment and personal protective equipment applicable to the task being undertaken
- specifications:
 - fertiliser and soil ameliorant machinery and equipment operation and maintenance manuals and manufacturer specifications
 - industry code of practice applicable to fertiliser and soil ameliorant application
 - industry and workplace biosecurity procedures applicable to fertiliser and soil ameliorant application, and fertiliser and soil ameliorant machinery and equipment
- timeframes:
 - according to the job requirements.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides are available at VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

AHCMOM402 Supervise maintenance of property, machinery and equipment

Modification History

Release	Comments
Release 2	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 3.0.
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 1.0.

Application

This unit of competency describes the skills and knowledge required to identify, implement and supervise the maintenance requirements of property, machinery and equipment for an enterprise.

The unit applies to individuals who apply specialised skills and knowledge to supervising the maintenance of property, machinery and equipment and have responsibility for the output of others. This includes applying and communicating non-routine technical solutions to predictable and unpredictable problems.

No occupational licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Machinery operation and maintenance (MOM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare maintenance	1.1 Identify maintenance requirements for property, machinery and

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
plan	<p>equipment from relevant information sources</p> <p>1.2 Check maintenance requirements against warranty, insurance agreements and indemnity provisions</p> <p>1.3 Identify and quantify total maintenance costs</p> <p>1.4 Develop a maintenance plan to promote and sustain performance and production systems in line with workplace requirements</p> <p>1.5 Establish an effective workplace communication strategy that refers to the maintenance plan and includes workplace environmental, health and safety procedures</p>
2. Implement maintenance plan	<p>2.1 Identify, secure and include resource, supply and operational requirements in workplace budgets</p> <p>2.2 Communicate maintenance schedules and procedures to staff, contractors and suppliers</p> <p>2.3 Implement and schedule a maintenance plan to minimise disruption to workplace operations</p> <p>2.4 Assess potential risks with regard to staff and supply problems, and prepare contingency plans accordingly</p> <p>2.5 Align tasks required to staff capability and provide training where required</p> <p>2.6 Confirm machinery and equipment is operated to manufacturer specifications and workplace environmental and health and safety procedures</p>
3. Monitor maintenance plan	<p>3.1 Monitor maintenance activities and performance against maintenance plan for efficiency and effectiveness</p> <p>3.2 Monitor and control workplace hazards and environmental implications associated with maintenance procedures according to health and safety procedures</p> <p>3.3 Monitor and control costs within workplace budget requirements</p> <p>3.4 Document relevant information with regard to the maintenance plan according to workplace procedures</p> <p>3.5 Ensure property, machinery and equipment are maintained in clean and safe operational condition</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Identify and interpret information regarding maintenance requirements for property, machinery and equipment Interpret warranty, insurance agreements and indemnity provisions to confirm information related to maintenance requirements for property, machinery and equipment
Writing	<ul style="list-style-type: none"> Complete maintenance plan and schedule to include maintenance requirements and costs
Oral communication	<ul style="list-style-type: none"> Initiate discussions with staff, contractors and suppliers, using clear language to communicate maintenance schedules and procedures
Numeracy	<ul style="list-style-type: none"> Estimate and calculate maintenance and repair costings of property, machinery and equipment maintenance Monitor costs against budget
Navigate the world of work	<ul style="list-style-type: none"> Identify and describe own workplace requirements, including safety requirements, associated with own role and area of responsibility Monitor self and others adherence to workplace requirements including safety requirements
Interact with others	<ul style="list-style-type: none"> Use appropriate language and communication skills to disseminate information about maintenance schedules and procedures within the work team

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCMOM402 Supervise maintenance of property, machinery and equipment Release 2	AHCMOM402 Supervise maintenance of property, machinery and equipment Release 1	Minor changes to performance criteria and foundation skills	Equivalent unit

Links

Companion Volumes, including Implementation Guides are available at VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCMOM402 Supervise maintenance of property, machinery and equipment

Modification History

Release	Comments
Release 2	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 3.0.
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 1.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit. There must be evidence that the individual has implemented and supervised the range of maintenance programs covering property, machinery and equipment that are required to be performed in an agriculture/horticulture industry enterprise, and has demonstrated the following on at least one occasion:

- identified potential workplace hazards and implemented control measures
- planned, costed and scheduled maintenance requirements
- allocated resources
- monitored and controlled costs within workplace budget requirements
- dealt with contingencies and rescheduled maintenance where necessary
- established and monitored performance targets for maintenance team
- monitored and reported on performance of maintenance activities
- ensured property, machinery and equipment are maintained in clean and safe operational condition
- communicated effectively with work team, contractors and management
- monitored health and safety in the workplace and adherence to environmental procedures.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- types of maintenance requirements with regard to property, machinery and equipment
- maintenance and servicing cycles for property, machinery and equipment
- maintenance planning, scheduling and budgeting
- warranty, insurance agreements and indemnity provisions applicable to property, machinery and equipment maintenance

- workplace procedures applicable to health and safety in the workplace and property, machinery and equipment maintenance.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - a workplace setting or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - warranties, insurance agreements, and indemnity provisions
 - property, machinery and equipment maintenance plans and schedules
 - property, machinery and equipment budgets
- specifications:
 - property maintenance schedule
 - machinery and equipment operation and maintenance manual and manufacturer specifications
 - workplace procedures applicable to health and safety in the workplace and property, machinery and equipment maintenance
- timeframes:
 - according to the job requirements.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides are available at VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

AHCNRM507 Manipulate and analyse data within geographic information systems

Modification History

Release	TP Version	Comment
1	AHCv1.0	Initial release

Application

This unit of competency describes the skills and knowledge required to extract, compare and manipulate data within a Geographic Information System (GIS) in response to customer requests.

This unit applies to those who undertake data analysis within a range of geographic information systems for the purpose of managing natural resources. They are likely to undertake a range of specialised skilled activities, exercise autonomy and take responsibility for complex work.

No occupational licensing, legislative or certification requirements are known to apply to this unit at the time of publication.

Pre-requisite Unit

Nil.

Unit Sector

Natural Resource Management (NRM)

Elements and Performance Criteria

Element	Performance criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Develop procedures for manipulation and	1.1 Specify desired data format based on job requirements 1.2 Specify parameters for the manipulation of data sets

Element	Performance criteria
analysis of data	1.3 Explain the procedure and rationale for development in new documented procedures
2. Establish models required to provide outcome	2.1 Evaluate applicability of existing tools, models, theories, applications and solutions 2.2 Specify feasible parameters, equations and assumptions 2.3 Establish models required to provide specified outcome
3. Analyse data	3.1 Specify steps to be undertaken and computer operating systems and applications to be used to analyse and manipulate data 3.2 Consider restricting factors when selecting techniques for analysis 3.3 Isolate and retrieve data from its source 3.4 Interrogate data to ensure reliability 3.5 Prepare data for presentation media

Foundation Skills

Foundation Skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Unit Mapping Information

This unit is equivalent to AHCNRM507A Manipulate and analyse data within geographic information systems.

Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCNRM507 Manipulate and analyse data within geographic information systems

Modification History

Release	TP Version	Comment
1	AHCv1.0	Initial release

Performance Evidence

The candidate must be assessed on their ability to integrate and apply the performance requirements of this unit in a workplace setting. Performance must be demonstrated consistently over time and in a suitable range of contexts.

The candidate must demonstrate that they can extract, compare and manipulate data in response to customer requests.

The candidate must provide evidence that they can:

- develop and document suitable procedures for data collection, manipulation and analysis
- use or create appropriate models
- use operating systems and computer applications for data analysis and report writing, according to organisational requirements

Knowledge Evidence

The candidate must demonstrate knowledge of:

- database structures
- scripting and commands
- line instructions and programming
- operating systems used by enterprise for data analysis and storage, including:
 - UNIX
 - DOS
 - Windows
 - NT
- range of tools, models, theories, applications and solutions
- data analysis and manipulation techniques

Assessment Conditions

Assessors must satisfy current standards for RTOs.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

AHCNSY207 Undertake propagation activities

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to prepare for plant propagation, assist with plant propagation and complete propagation activities.

The unit applies to individuals who undertake propagation activities under general supervision with limited autonomy or accountability.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Nursery (NSY)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for plant propagation	1.1 Confirm propagation activities to be undertaken with supervisor 1.2 Recognise potential hazards and risks and implement safe working practices to minimise risk to self and others 1.3 Fit and use personal protective equipment applicable to the task 1.4 Collect and check appropriate tools, equipment and machinery for the task

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	1.5 Clean and disinfect work area according to workplace procedures 1.6 Organise propagation material for use as directed and in line with workplace procedures 1.7 Prepare and store propagation material and growing media as directed and in line with workplace procedures
2. Propagate plants	2.1 Assist with applying pre-treatment appropriate to the propagation method 2.2 Undertake propagation techniques and monitoring of equipment processes as instructed 2.3 Handle prepared propagation material in a way that minimises damage and maximises viability 2.4 Insert prepared material in the propagation receptacle according to supervisor instructions 2.5 Apply water and treatments according to supervisor instructions 2.6 Apply labels according to workplace requirements 2.7 Maintain propagated plants according to supervisor instructions
3. Complete propagation activities	3.1 Remove and dispose of waste material according to workplace procedures, and perform cleaning procedures 3.2 Clean, maintain and store tools and equipment 3.3 Identify and report unserviceable tools, equipment and machinery according to workplace procedures 3.4 Record and report propagation activities according to workplace procedures and supervisor instructions

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Writing	<ul style="list-style-type: none"> Use clear language and accurate industry terminology to record propagation activity and complete plant labels

Skill	Description
Oral communication	<ul style="list-style-type: none"> Use clear language to confirm and report propagation activity and report tool and equipment unserviceability

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCNSY207 Undertake propagation activities	AHCNSY203 Undertake propagation activities	Minor changes to application Major changes to performance criteria Foundation skills added Assessment requirements updated	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCNSY207 Undertake propagation activities

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has undertaken propagation activities on at least three occasions, including both seed and vegetative techniques and has:

- applied workplace health and safety requirements, including use of PPE
- prepared for plant propagation activities according to workplace instructions and procedures
- cleaned, used and maintained propagation tools, equipment and machinery
- collected propagation material as directed
- assisted with applying pre-treatments
- monitored equipment processes as instructed
- filled trays, containers or prepared media suitable for the propagation method as directed by supervisor
- undertaken propagation techniques as directed by supervisor
- minimised damage to and maximised viability of propagated material
- applied water and treatments according to supervisor instructions
- removed and disposed of waste material
- recorded and reported propagation activities and unserviceable tools, equipment and machinery.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- workplace requirements applicable to propagation activities and health and safety in the workplace
- the principles and practices of propagation, including:
 - basic plant knowledge as it applies to propagation

- common problems that occur while performing propagation activities
- workplace hygiene and biosecurity requirements
- workplace requirements for handling and disposal of nursery waste
- maintenance requirements of tools, equipment and machinery used for propagation
- basic plant nutrition as it applies to propagation
- basic seed and vegetative propagation techniques, including use of equipment
- quality specifications and characteristics of a range of parent plants and propagation materials
- record-keeping relevant to the work function.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - a workplace setting or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - propagation tools, containers, equipment and machinery
 - seed and vegetative propagation material, growing media and treatments
 - personal protective equipment applicable to propagation activities
- specifications:
 - workplace requirements applicable to health and safety in the workplace and propagation activities
 - work instructions and workplace procedures applicable to propagation activities
- relationships:
 - supervisor
- timeframes:
 - according to job requirements.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

AHCNSY314 Operate fertigation equipment

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to prepare, operate and shut down fertigation equipment, and report fertigation activities, to deliver fertilisers using an irrigation system.

The unit applies to individuals who operate fertigation equipment under broad direction, and take responsibility for their own work.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Nursery (NSY)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare materials and equipment for operation	1.1 Determine work requirements from workplace instructions 1.2 Identify potential hazards and risks, and implement safe working practices to manage risks 1.3 Select required tools, equipment and machinery, and check for safe operation 1.4 Select, fit, use and maintain personal protective equipment

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>applicable to the task</p> <p>1.5 Identify water quality issues related to fertigation activities</p> <p>1.6 Calibrate and connect injection or fertigation equipment</p> <p>1.7 Calculate fertiliser and chemical concentration, and mix according to compatibility requirements</p> <p>1.8 Prepare equipment to meet fertigation requirements</p>
2. Operate the fertigation process	<p>2.1 Start up fertigation process according to operators manual</p> <p>2.2 Operate and monitor fertigation process to confirm performance is maintained within specification</p> <p>2.3 Monitor water quality and test concentrations at irrigation emitter to ensure calculated concentration is achieved</p> <p>2.4 Identify, rectify and report out-of-specification equipment performance</p> <p>2.5 Apply emergency procedures in the event of a spillage or chemical accident</p>
3. Shut down fertigation equipment	<p>3.1 Carry out fertigation equipment shut-down according to operators' manual</p> <p>3.2 Clean fertigation equipment according to maintenance procedure</p>
4. Record information	<p>4.1 Record and report environmental hazards of fertigation process where applicable</p> <p>4.2 Record and report fertiliser application and storage details according to workplace recording procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Identify and interpret textual information from a range of sources to identify relevant and key information about fertigation equipment operations

Skill	Description
Writing	<ul style="list-style-type: none"> Use clear language, accurate industry terminology and logical structure to prepare fertigation activity records
Oral communication	<ul style="list-style-type: none"> Use clear language to report out-of-specification equipment performance
Numeracy	<ul style="list-style-type: none"> Calculate fertiliser dilution rates

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCNSY314 Operate fertigation equipment	AHCNSY307 Operate fertigation equipment	Minor changes to application Major changes to performance criteria Foundation skills added Assessment requirements updated	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCNSY314 Operate fertigation equipment

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has operated fertigation equipment on at least two occasions, and has:

- applied workplace health and safety requirements, including use of PPE
- selected, cleaned, used and maintained fertigation tools and equipment, and injection equipment, according to operators manuals, and scope of works
- selected and prepared fertigation and injection materials
- completed relevant calculations
- handled fertilisers and chemicals safely
- monitored and adjusted the delivery of fertilisers and chemicals
- monitored water quality and tested pH and Ec at irrigation emitter for correct application concentration
- reported and recorded corrective action
- taken corrective action in response to out-of-specification results or non-compliance
- implemented routine maintenance and minor repairs of the system
- removed and disposed of waste material
- recorded fertigation activities.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- workplace requirements applicable to health and safety in the workplace for operating fertigation equipment, including backflow prevention
- purpose and operation of fertigation equipment and instrumentation components
- basic injection equipment operating principles and process control systems where relevant
- the principles and practices of fertigation operation, including:

- chemical handling techniques for fertiliser, chlorine, acid and cleaning agents
- safety data sheets (SDS) information for fertiliser and chemicals to be injected
- fertiliser solubility and dilution rates
- fertiliser compatibility or incompatibility in mixtures, with crops, and fertigation equipment
- water quality monitoring and pH and Ec testing techniques and procedures
- advantages of delivering fertilisers using an irrigation system
- fertigation and injection equipment operators' manuals
- fertigation and injection equipment monitoring and control points
- common causes of application variation and corrective action required
- fertigation and injection equipment shutdown sequence, including emergency shutdown
- cleaning procedures for fertigation and injection equipment
- workplace fertiliser and chemical application and storage, and fertigation activity recording requirements and procedures.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - a workplace setting or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - fertigation and injection equipment operators manuals
 - fertigation and injection tools, equipment and procedures
 - fertilisers, chemicals and cleaning agents
 - personal protective equipment applicable to operating fertigation and injection equipment
- specifications:
 - workplace requirements applicable to health and safety in the workplace and operating fertigation and injection equipment
 - work instructions and workplace procedures applicable to operating fertigation and injection equipment
 - SDS for substances being injected
 - recording procedures
 - environmental procedures for collection, treatment, disposal or recycling of waste
- relationships:
 - supervisor
- timeframes:
 - according to job requirements.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

AHCOCM201 Maintain cultural sites

Modification History

Release	Comments
Release 1	This version released with Agriculture, Horticulture and Conservation and Land Management Training Package Version 9.0.

Application

This unit of competency describes the skills and knowledge required to maintain Aboriginal and/or Torres Strait Islander cultural sites according to local Community guidelines and cultural protocols.

This unit applies to individuals who work under general supervision and exercise limited autonomy with some accountability for their own work. This includes undertaking defined activities and work in a structured context.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

On Country Management (OCM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Assess maintenance work required	1.1 Identify works required under the management plan and organisational procedures and confirm with supervisor 1.2 Identify required machinery and tools to carry out maintenance works and confirm with supervisor 1.3 Estimate materials required for maintenance work and confirm

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	with supervisor
2. Prepare for maintenance	2.1 Organise machinery, tools and materials to carry out maintenance works 2.2 Inspect area for hazards associated with maintenance work, and report to supervisor 2.3 Prepare and assemble safety equipment and materials
3. Maintain condition of cultural site	3.1 Undertake maintenance work according to work programs and work health and safety policies and procedures 3.2 Recognise flora and/or fauna that may pose a threat to the cultural site and report to supervisor 3.3 Report evidence of deterioration and wear 3.4 Clean up cultural site on completion of maintenance works
4. Protect cultural site	4.1 Report any evidence of damage to cultural site to supervisor 4.2 Report any breach of organisation's procedures to supervisor 4.3 Maintain protective barriers and signs according to organisational processes

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret operating/instruction manuals for machinery and tools
Oral communication	<ul style="list-style-type: none"> Use culturally appropriate verbal and non-verbal communication
Numeracy	<ul style="list-style-type: none"> Measure, estimate and calculate distance, area, volume and quantity

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCOCM201 Maintain cultural sites	AHCILM201 Maintain cultural places	Application updated Elements and Performance Criteria revised for clarity Foundation Skills added Performance Evidence, Knowledge Evidence and Assessment Conditions updated	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCOCM201 Maintain cultural sites

Modification History

Release	Comments
Release 1	This version released with Agriculture, Horticulture and Conservation and Land Management Training Package Version 9.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has maintained a cultural site on at least one occasion and has:

- identified the level of work required to maintain the cultural site and confirmed with supervisor
- prepared for and carried out maintenance activities according to organisational, cultural and environmental requirements
- erected signage and/or barriers to protect cultural site
- reported evidence of deterioration, vandalism and/or other damage to cultural site to supervisor
- recognised and reported potential threats to cultural site, including:
 - feral animals and/or other pests
 - flora that is not endemic to the cultural site
- applied work health and safety practices in the context of own work.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- potential threats to cultural site, including:
 - vandalism and/or other damage
 - deterioration of the cultural site
 - infestations of feral animals and/or other pests
 - invasive species of flora
- techniques for maintenance and protection of cultural site
- typical maintenance works undertaken on cultural sites, including:
 - operation of machinery and tools

- signs and barriers required to protect a cultural site
- safe removal of damaged materials
- organisational procedures relating to the reporting of deterioration or damage to cultural site or reporting of incidents
- workplace health and safety processes relevant to maintaining a cultural site.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated on Country and/or within an Aboriginal and/or Torres Strait Islander Community or an environment that accurately represents workplace conditions
- resources, equipment or materials:
 - personal protective equipment
 - maintenance equipment
 - safety signs and barriers
 - machinery and tools required for site maintenance
- specifications:
 - organisation's policies and procedures relating to maintaining a cultural site
- relationships:
 - local Community Elders and/or Custodians.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards. In addition, the following specific assessor requirements apply to this unit:

- Assessment must be undertaken by a workplace assessor who has expertise in this unit of competency and who is:
 - an Aboriginal and/or Torres Strait Islander Elder and/or Custodian

or:

- accompanied by, and/or in communication with, an Aboriginal and/or Torres Strait Islander person who is a recognised member of the community with experience and knowledge of local cultural protocols.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

AHCOCM401 Protect places of cultural significance

Modification History

Release	Comments
Release 1	This version released with Agriculture, Horticulture and Conservation and Land Management Training Package Version 9.0.

Application

This unit of competency describes the skills and knowledge required to protect places of cultural significance.

This unit applies to those whose work includes protecting Aboriginal and/or Torres Strait Islander Peoples' places of culture in co-operation with stakeholders and protecting places of cultural significance with reference to local Aboriginal and/or Torres Strait Islander Communities or line management. A high level of cultural awareness and the need to observe cultural protocols are important in the process.

Commonwealth and/or state/territory and Local Community legislation, regulations and codes of practice apply to conservation work on Aboriginal and/or Torres Strait Islander sites. Requirements vary between jurisdictions.

Pre-requisite Unit

Nil

Unit Sector

On Country Management (OCM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Communicate with stakeholders	1.1 Develop working relationships with stakeholders that support the management of culturally significant places 1.2 Develop communication approaches that accommodate cultural views and observe cultural protocols

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.3 Obtain and record views on the way in which the cultural significance and resources can be conserved and used</p> <p>1.4 Convey views obtained into an organisational and park planning process</p>
2. Conserve significance	<p>2.1 Consult with stakeholders to plan ongoing conservation and sustainability actions</p> <p>2.2 Develop operational activities to implement the conservation and sustainability strategies and plans in a culturally sensitive manner</p> <p>2.3 Ensure strategies and plans comply with legislation and codes of practice</p> <p>2.4 Make submissions to the organisational budget process to implement conservation and restoration activities</p> <p>2.5 Obtain resources for conservation and restoration activities</p> <p>2.6 Organise staff to implement conservation actions that minimise deterioration and damage</p> <p>2.7 Supervise staff during restoration projects</p>
3. Manage incidents	<p>3.1 Develop operational plans to manage incidents consistent with an emergency plan of management and risk management analysis</p> <p>3.2 Assign staff responsibilities to manage types of incidents</p> <p>3.3 Obtain and maintain equipment and supplies to enable effective response to incidents</p> <p>3.4 Train staff in the appropriate response to incidents, that incorporate related work health and safety and environmental sustainability procedures</p> <p>3.5 Make submissions to the organisational budget process to support incident management activities</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret, analyse and extract information from a range of sources, including legal documents, policies and procedures
Oral communication	<ul style="list-style-type: none"> Use culturally appropriate verbal and non-verbal communication
Numeracy	<ul style="list-style-type: none"> Calculate costs

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCOCM401 Protect places of cultural significance	AHCILM401 Protect places of cultural significance	Application updated Elements and Performance Criteria revised for clarity Foundation Skills added Performance Evidence, Knowledge Evidence and Assessment Conditions updated	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCOCM401 Protect places of cultural significance

Modification History

Release	Comments
Release 1	This version released with Agriculture, Horticulture and Conservation and Land Management Training Package Version 9.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has protected at least one Aboriginal and/or Torres Strait Islander culturally significant site, including:

- developed working relationships with stakeholders in cultural sites
- canvassed views in a culturally sensitive way to determine the heritage value and preservation issues of a cultural site
- observed local cultural protocols in dealing with stakeholders and land managers
- applied legislation and codes of practice requirements in relation to protecting places of cultural significance
- developed emergency plans to mitigate and manage the risk of damaging incidents or loss of heritage value
- documented submissions to implement conservation and restoration activities and support the incident management activities
- assisted with the development and implementation of a budget for the protection of places of cultural significance
- supervised and trained staff in performing restoration and conservation activities
- included work health and safety procedures in operational plans and training to manage incidents
- planned and documented environmentally sustainable practices.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- Aboriginal and/or Torres Strait Islander protocols, consultation processes and networks
- organisation policies and procedures for conservation of places of cultural significance
- key principles of legislation and codes of practice, including:

- environmental sustainability
- Burra Charter
- work health and safety
- National Parks and Wildlife Service legislation
- operational planning activities engaged for conservation, restoration and risk management
- supervision and training of staff
- organisational policies and procedures, including:
 - budgets and financial approvals
 - preservation and heritage value of cultural sites
 - risk management
 - report submission requirements
- communication methods used to accommodate cultural views and observe cultural protocols, including:
 - verbal and non-verbal cues
 - appropriate questioning
 - eye contact
 - silences.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated on Country or a place of cultural significance and/or within an Aboriginal and/or Torres Strait Islander Community or an environment that accurately represents workplace conditions
- specifications:
 - legislation and codes of practice relevant to protecting places of cultural significance
 - workplace documents such as organisation's policies and procedures relevant to protecting places of cultural significance
- relationships:
 - local Community Elders and/or Custodians.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards. In addition, the following specific assessor requirements apply to this unit:

- Assessment must be undertaken by a workplace assessor who has expertise in this unit of competency and who is:
 - an Aboriginal and/or Torres Strait Islander Elder and/or Custodian

or:

- accompanied by, and/or in communication with, an Aboriginal and/or Torres Strait Islander person who is a recognised member of the community with experience and knowledge of local cultural protocols.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

AHCPMG201 Treat weeds

Modification History

Release	Comments
Release 2	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 3.0.
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 1.0.

Application

This unit of competency describes the skills and knowledge required to recognise common weed species and apply a range of weed treatments and control options.

The unit applies to individuals working in a broad range of job contexts who undertake defined routine activities under supervision. They exercise limited autonomy within established and well known parameters, providing solutions to a limited range of predictable problems.

State or territory licensing, legislative or certification requirements apply in some jurisdictions.

Pre-requisite Unit

Nil

Unit Sector

Pest Management (PMG)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to treat weeds	1.1 Identify and record details of target weeds and confirm with supervisor according to workplace procedures 1.2 Discuss and select appropriate control technique with supervisor

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.3 Perform calculations according to control option and treatment requirements and confirm with supervisor</p> <p>1.4 Select and prepare equipment for use according to enterprise guidelines, supervisor's direction and manufacturer's specifications</p> <p>1.5 Secure the treatment area according to workplace procedures and supervisors instructions</p> <p>1.6 Identify health and safety hazards and risks in the workplace and apply appropriate controls according to supervisor instructions</p>
2. Conduct weed treatment	<p>2.1 Identify, select, fit and use personal protective equipment according to workplace procedures and manufacturer instructions</p> <p>2.2 Prepare treatments according to supervisor's instructions, manufacturer guidelines, label directions and safety data sheets</p> <p>2.3 Apply treatments to minimise damage to off-target species according to workplace procedures, health and safety in the workplace and environmental legislative and regulatory requirements</p>
3. Carry out post treatment operation	<p>3.1 Clean and store personal protective equipment and application equipment according to workplace and environmental procedures</p> <p>3.2 Dispose of treatment waste according to environmental procedures</p> <p>3.3 Maintain records according to workplace procedures and legislative and regulatory requirements</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret textual information from a range of sources to identify relevant and key information to operate equipment, determine methods and rates for treatments
Writing	<ul style="list-style-type: none"> Prepare treatment records using clear and accurate language and terminology
Numeracy	<ul style="list-style-type: none"> Perform basic mathematical calculations to determine rates of application relevant to treatment option

Skill	Description
Oral Communication	<ul style="list-style-type: none"> Use clear language and concepts, and tone and pace appropriate when communicating with supervisor
Navigate the world of work	<ul style="list-style-type: none"> Recognise organisational expectations and follow explicit work procedures and protocols
Get the work done	<ul style="list-style-type: none"> Follow clearly defined instructions and sequencing, and monitor own progress for the task, seeking assistance when necessary

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCPMG201 Treat weeds Release 2	AHCPMG201 Treat weeds Release 1	Minor changes to Performance Criteria for clarity Updated Performance Evidence and Knowledge Evidence	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCPMG201 Treat weeds

Modification History

Release	Comments
Release 2	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 3.0.
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 1.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit. There must be evidence that the individual has demonstrated that they have treated weeds using at least two different techniques, including:

- recognised and recorded target weeds and confirmed with supervisor
- discussed and selected control options with supervisor
- prepared control options and treatments following required procedures
- identified health, safety and environmental hazards and risks and applied controls according to workplace procedures
- identified, selected, fitted and used personal protective equipment
- applied treatments safely ensuring off-target species were unaffected
- shut down, cleaned and stored personal protective equipment and application equipment according to environmental procedures
- disposed of waste according to workplace procedures and environmental procedures
- maintained records according to workplace procedures and legislative and regulatory requirements.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- common weeds identification and naming conventions
- weeds and dispersal methods common to work area
- common weed treatment options, including:
 - cultural
 - chemical
 - mechanical
 - biological

- Integrated Pest Management
- basic environmental considerations when using chemicals for treating weeds, including:
 - spray drift and off target damage
 - inversion
 - re-entry period
 - residues
 - chemical handling
- regulatory requirements and responsibilities when applying weed treatments
- weed control equipment, capabilities and limitations
- health and safety in the workplace including personal protective equipment required for controlling weeds
- principles and methods for securing treatment sites including, caution or hazard signs and signals
- purpose and use of chemical labels and safety data sheets (SDS)
- environmental considerations when controlling and disposing of weeds and waste materials
- record keeping methods and requirements.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated on a site with weed infestation or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - weeds to be identified and controlled
 - tools and equipment suitable for control options and treatments
 - personal protective equipment
 - treatment materials
- specifications:
 - workplace documents including treatment and control procedures and processes and forms for recording treatments
 - use of manufacturers' operating instructions for specific equipment, machinery used for weed control
 - SDS for treatment materials
 - specific regulations
- relationships:
 - supervisor.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

AHCPMG202 Treat plant pests, diseases and disorders

Modification History

Release	Comments
Release 2	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 3.0.
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 1.0.

Application

This unit of competency describes the skills and knowledge required to recognise plant pests, diseases and disorders, determine the treatment options and apply treatments under supervision.

The unit applies to individuals working in a broad range of job contexts who undertake defined routine activities under supervision. They exercise limited autonomy within established and well known parameters, providing solutions to a limited range of predictable problems.

State or territory licensing, legislative or certification requirements apply in some jurisdictions.

Pre-requisite Unit

Nil

Unit Sector

Pest Management (PMG)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to treat plant pests, diseases and	1.1 Identify and record details of pest, disease or disorder and confirm

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
disorders	<p>with supervisor according to workplace procedures</p> <p>1.2 Discuss and select appropriate control technique with the supervisor</p> <p>1.3 Perform calculations according to control option and treatment requirements and confirm with supervisor</p> <p>1.4 Select and prepare equipment for use according to workplace procedures, supervisor instructions and manufacturer specifications</p> <p>1.5 Secure treatment area according to health and safety in the workplace procedures and supervisors instructions</p> <p>1.6 Identify health and safety hazards and risks in the workplace and apply appropriate controls according to supervisor instructions</p>
2. Apply treatments to plant pests, diseases and disorders	<p>2.1 Identify, select, fit and use personal protective equipment according to according to workplace procedures and manufacturer instructions</p> <p>2.2 Prepare treatments according to supervisor's instructions, chemical label instructions, safety data sheets and manufacturer instructions</p> <p>2.3 Apply treatments to minimise damage and exposure to off-target species according to workplace procedures, health and safety in the workplace and environmental legislative and regulatory requirements</p>
3. Carry out post treatment operation	<p>3.1 Clean and store personal protective equipment and application equipment according to workplace and environmental procedures</p> <p>3.2 Dispose of treatment waste according to environmental procedures</p> <p>3.3 Maintain records according to workplace procedures and legislative and regulatory requirements</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret textual information from a range of sources to identify relevant and key information to operate equipment, determine

Skill	Description
	methods and rates for treatments
Writing	<ul style="list-style-type: none"> Prepare treatment records using clear and accurate language and terminology
Numeracy	<ul style="list-style-type: none"> Perform basic mathematical calculations to determine rates of application relevant to treatment option
Oral Communication	<ul style="list-style-type: none"> Use clear language and concepts, and tone and pace appropriate when communicating with supervisor
Navigate the world of work	<ul style="list-style-type: none"> Recognise and apply organisational expectations and follows explicit workplace procedures and protocols
Get the work done	<ul style="list-style-type: none"> Follow clearly defined instructions and sequencing, and monitors own progress for the task, seeking assistance when necessary

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCPMG202 Treat plant pests, diseases and disorders Release 2	AHCPMG202 Treat plant pests, diseases and disorders Release 1	Minor changes to Performance Criteria for clarity Updated Performance Evidence and Knowledge Evidence	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCPMG202 Treat plant pests, diseases and disorders

Modification History

Release	Comments
Release 2	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 3.0.
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 1.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit. There must be evidence that on at least one occasion the individual has demonstrated that they have treated plant pests and diseases, including:

- recognised and recorded target pests, diseases and disorders and confirmed with supervisor
- discussed and selected control options with supervisor
- prepared control options and treatments following required procedures
- identified health and safety in the workplace and environmental hazards and risks and applied controls according to workplace procedures
- identified, selected, fitted and used personal protective equipment
- applied treatments safely ensuring off-target species were unaffected
- shut down, cleaned and stored personal protective equipment and application equipment according to environmental procedures
- disposed of waste according to workplace procedures and environmental procedures
- updated records according to workplace procedures and legislative and regulatory requirements.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- common pests, diseases and disorders identification
- pests, diseases and disorders and dissemination method common to work area
- pests, diseases and disorders treatment options, including:
 - cultural
 - chemical

- mechanical
- biological
- Integrated Pest Management
- basic environmental considerations when using chemicals for treating pests, diseases and disorders, including:
 - spray drift and off target damage
 - inversion
 - re-entry period
 - residues
 - chemical handling
- regulatory requirements and responsibilities when applying control measures
- pests, disease and disorders control equipment, capabilities and limitations
- health and safety in the workplace including personal protective equipment required for treating pests, disease and disorders
- principles and methods for securing treatment sites including, caution or hazard signs and signals
- purpose and use of chemical labels and safety data sheets (SDS)
- environmental considerations when treating pests, diseases and disorders, and disposing of waste materials
- record keeping methods and requirements.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in the field or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - samples of pests, diseases and disorders to be identified and controlled
 - tools and equipment suitable for control options and treatments
 - personal protective equipment
 - treatment materials
- specifications:
 - workplace documents including instructions, treatment and control procedures and processes and forms for recording treatments
 - manufacturers' operating instructions for specific equipment
 - SDS for treatment materials
 - specific regulations
- relationships:
 - supervisor.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

AHCPMG301 Control weeds

Modification History

Release	Comments
Release 3	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 3.0.
Release 2	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 2.0.
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 1.0.

Application

This unit of competency describes the skills and knowledge required to plan and coordinate weed control activities using appropriate strategies to provide effective, economic control while minimising environmental damage.

The unit applies to individuals who work under broad direction and take responsibility for their own work. They use discretion and judgement in the selection, allocation and use of available resources and for solving problems.

State or territory licensing, legislative or certification requirements apply in some jurisdictions.

Pre-requisite Unit

Nil

Unit Sector

Pest Management (PMG)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Assess weed infestation	1.1 Identify and record weeds and potential weeds for target area 1.2 Identify the scope, stage and size of the weed infestation impacting on target area 1.3 Assess effect of weed infestation on target area 1.4 Identify tolerable levels of infestation according to workplace requirements 1.5 Investigate approaches to control weed infestation 1.6 Identify non-target plant and animal species present in the area 1.7 Assess the site for suitability of control measures according to health and safety in the workplace and environmental requirements
2. Plan weed control measures	2.1 Determine suitable control options according to workplace requirements and legislative and regulatory requirements 2.2 Identify and assess hazards, risks and controls according to workplace procedures and regulations 2.3 Identify appropriate resources for control options 2.4 Identify, fit and use personal protective equipment in accordance with health and safety in the workplace procedures 2.5 Select and prepare a plan for control measures according to workplace strategy and environmental legislative and regulatory requirements 2.6 Document control measures according to workplace and legislative requirements
3. Implement weed control	3.1 Assess conditions for implementation of control plan and adjust plan according to conditions 3.2 Implement control measures in accordance with workplace pest management plan and industry best practice 3.3 Ensure that control measures minimise effect on non-target species and environmental damage 3.4 Maintain records of the control measure according workplace procedures and regulatory requirements
4. Monitor weed control measures	4.1 Monitor weed control measures and identify adverse impact on non-target entities 4.2 Assess effectiveness of weed control measures in accordance with

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	workplace procedures 4.3 Report results of assessment according to client or workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Read and interpret plans, regulations, and other documentation and consolidate information to determine control plans and implement control measures
Writing	<ul style="list-style-type: none"> Accurately complete organisational records, plans and reports using clear language and industry terminology
Numeracy	<ul style="list-style-type: none"> Perform calculations for volumes, weights and measures for application rates of chemicals and materials
Oral Communication	<ul style="list-style-type: none"> Effectively participate in verbal exchanges using collaborative and inclusive techniques including active listening and questioning and reading of verbal and non-verbal signals to convey and clarify information
Navigate the world of work	<ul style="list-style-type: none"> Take responsibility for following explicit and implicit policies, procedures, codes of practice and legislative requirements
Get the work done	<ul style="list-style-type: none"> Take responsibility for planning, sequencing and prioritising tasks and workload Make routine decisions and implements standard procedures for routine tasks, using formal decision making processes

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCPMG301	AHCPMG301	Minor changes to	Equivalent unit

Control weeds Release 3	Control weeds Release 2	Performance Criteria for clarity Updated Performance Evidence and Knowledge Evidence	
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Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCPMG301 Control weeds

Modification History

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Release 2	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 2.0.
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 1.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit. There must be evidence that the individual has demonstrated on at least one occasion that they have controlled weeds, including:

- identified, recorded and assessed weeds and their impact on the target area
- investigated the suitability of weed control approaches and effect on site environment and non-target entities
- planned and coordinate weed control activities
- identified tolerable levels of weed infestation for the target site
- conducted a site hazard, risk assessment and identified controls for weed control
- ensured personal safety by using appropriate personal protective equipment
- selected and applied weed management methods appropriate to the target site
- maintained records of weed management activities
- monitored, recorded and reported the effectiveness of methods
- ensured control measures had minimal effect on non-target species and environment.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- weeds and their tolerable levels and impact on target area, including:
 - economic, aesthetic, health, fire hazard and environmental thresholds of common weeds
 - non-target entities common to the area
 - effect of weed infestation on required plant health and growth

- basic weed biology, including:
 - lifecycle and ecology of a range of weeds
 - cyclical nature of weeds and control programs
 - weed characteristics, morphology and dispersal
- weed management strategies and their selection criteria, including:
 - cultural
 - chemical
 - mechanical
 - biological
 - Integrated Pest Management
- risk factors including human, animal health and environmental associated with control measures
- factors that affect the efficacy of weed management strategies, including:
 - prevailing weather and atmospheric conditions
 - impact of off target damage on non-target entities
 - residues and maximum residue levels
- weed control activities and disturbance to other plant or animal species
- signs of adverse impact of control measures and ways to minimise their effect on non-target entities, including:
 - humans
 - animals
 - non-target plants
 - environment
- site-monitoring techniques that may be used to implement the weed control plan
- hazard and risks assessment and control methodologies
- equipment including personal protective equipment appropriate to control measure
- health and safety in the workplace requirements
- pest management planning and survey strategies
- legislative requirements relevant to weed control.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in the field or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - live weeds
 - tools and equipment used for weed control program
 - personal protective equipment
- specifications:

- workplace documents including policies, procedures, processes and forms for record keeping
- manufacturers' operating instructions for specific equipment and machinery
- safety data sheets
- workplace instructions and client briefs
- specific regulations and codes of practice
- relationships:
 - clients.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

AHCPMG302 Control plant pests, diseases and disorders

Modification History

Release	Comments
Release 3	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 3.0.
Release 2	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 2.0.
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 1.0.

Application

This unit of competency describes the skills and knowledge required to identify and assess the effect to plants of plant pests, diseases and disorders and plan and coordinate control measures.

The unit applies to individuals who work under broad direction and take responsibility for their own work. They use discretion and judgement in the selection, allocation and use of available resources and for solving problems.

State or territory licensing, legislative or certification requirements apply in some jurisdictions.

Pre-requisite Unit

Nil

Unit Sector

Pest Management (PMG)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Assess pests, disease	1.1 Identify and record plant pests, diseases, disorders and beneficial

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
and disorders	<p>organisms in target area</p> <p>1.2 Assess the scope, stage and size of the pests, diseases or disorders</p> <p>1.3 Determine tolerable threshold of pests, diseases or disorders according to workplace requirements</p>
2. Plan the implementation of plant pests, diseases and disorder control measures	<p>2.1 Identify and select control options according to workplace requirements and environmental procedures</p> <p>2.2 Select tools, equipment and machinery for control measure according to workplace procedures</p> <p>2.3 Identify and assess health and safety in the workplace hazards, risks and implement controls according to workplace procedures</p> <p>2.4 Select, fit, use and maintain personal protective equipment according to manufacturer instructions and health and safety in the workplace procedures</p> <p>2.5 Ensure control measures comply with health and safety in the workplace policies and environmental regulations</p>
3. Implement plant pests, diseases and disorder control measures	<p>3.1 Coordinate control measures with work team, contractors and suppliers according to sequence and timing in consultation with supervisor</p> <p>3.2 Implement control measures according to workplace procedures and industry best practice</p> <p>3.3 Maintain records according to workplace procedures and legislative and regulatory requirements</p>
4. Monitor plant pests, diseases and disorder control methods	<p>4.1 Monitor control measures to identify off-target effects</p> <p>4.2 Assess effectiveness of management measures against planned outcomes according to workplace procedures</p> <p>4.3 Adjust control methods where effectiveness has been below expectations</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Read and interpret plans, regulations, and other documentation and consolidates information to determine and implement management measures
Writing	<ul style="list-style-type: none"> Accurately complete organisational records, plans and reports using clear language and industry terminology
Navigate the world of work	<ul style="list-style-type: none"> Take responsibility for following explicit and implicit policies, procedures, codes of practice and legislative requirements
Interact with others	<ul style="list-style-type: none"> Select and use appropriate conventions and protocols when communicating with clients and co-workers in a range of work contexts Cooperate with others and contributes to work practices where joint outcomes are expected and deadlines are to be met
Get the work done	<ul style="list-style-type: none"> Take responsibility for planning, sequencing and prioritising tasks and workload Make routine decisions and implements standard procedures for routine tasks, using formal decision making processes

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCPMG302 Control plant pests, diseases and disorders Release 3	AHCPMG302 Control plant pests, diseases and disorders Release 2	Minor changes to Performance Criteria for clarity Updated Performance Evidence and Knowledge Evidence	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCPMG302 Control plant pests, diseases and disorders

Modification History

Release	Comments
Release 3	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 3.0.
Release 2	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 2.0.
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 1.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit. There must be evidence that the individual has demonstrated that on at least one occasion they can control pests, disease and disorders, including:

- identified and recorded pests, diseases and disorders, beneficial organisms on host plants in target area
- assessed damage, threat and threshold of pests diseases or disorders on host plants according to client, market or environment requirements
- selected and implemented pest, disease and disorder control measures according to workplace, environmental and safe work practices
- identified and selected tools equipment and resources necessary to implement the control measure
- identified and assessed health and safety hazards and risks and incorporate and implemented in controls strategies according to health and safety procedures
- identified, fitted and used personal protective equipment according to workplace procedures
- monitored the effectiveness of pest and disease control
- adjusted control measure on crop and off-target entities where outcomes were below expectation
- maintained records of pest and disease control activities according to regulatory and workplace requirements
- coordinated the control strategy with others according planned outcomes.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- pest, disease and disorder and symptom recognition of host stress
- economic, aesthetic or environmental thresholds for a range of plant pests, diseases and disorders
- control strategies for pests diseases and disorders, including:
 - chemical
 - biological
 - cultural methods
 - treatments available
 - Integrated Pest Management
 - industry best practice
- tools, equipment and machinery for implementing the control strategies and the importance of calibration
- site monitoring and analysis techniques used to implement a control strategy
- implications of control strategies for:
 - target and off-target
 - site limitations
 - environmental implications
 - end market and production
 - environmental objectives
- health and safety in the workplace responsibilities for employees and employers
- correct use, maintenance and storage of personal protective equipment
- health and safety in the workplace and environmental regulatory requirements including hazardous substances regulations
- basic communications skills
- workplace and mandatory record keeping requirements.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in the field or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - pests, diseases and disorders
 - tools and equipment for control program
 - personal protective equipment
- specifications:

- workplace documents including policies, procedures, processes and forms for record keeping
- manufacturers' operating instructions for specific equipment and machinery
- safety data sheets
- workplace instructions and client briefs
- specific legislation/codes of practice
- relationships:
 - clients
 - supervisor.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

AHCPMG304 Use firearms to humanely destroy animals

Modification History

Release	Comments
Release 2	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 3.0.
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 1.0.

Application

This unit of competency describes the skills and knowledge required to euthanise animals using firearms and techniques appropriate for the type and mobility of the animal.

The unit applies to individuals who hold a valid firearms license and work under broad direction and take responsibility for their own work. They use discretion and judgement in the selection, allocation and use of available resources and for solving problems.

State or territory licensing, legislative or certification requirements apply in some jurisdictions. Destruction of pest animals must comply with state animal cruelty legislation.

Pre-requisite Unit

Nil

Unit Sector

Pest Management (PMG)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan for the shooting activity	1.1 Map location and boundaries for the shoot in accordance with the pest management plan and monitoring program 1.2 Confirm location of habitats, habits and range of movement of target animal

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.3 Determine timing of the shoot based on the activity patterns of the target animal and estimate time required to complete the shoot</p> <p>1.4 Identify hazards and risks and apply control measures associated with the shoot according to workplace safety procedures</p> <p>1.5 Identify environmental and personal and public safety risks associated with the shoot</p> <p>1.6 Identify, fit and use suitable personal protective equipment and warning signs required for the activity</p>
2. Prepare for the shooting activity	<p>2.1 Confirm anatomy and physical features identifying location of vulnerable organs of target animal</p> <p>2.2 Take precautions to minimise hazards and environmental risks associated with the shoot</p> <p>2.3 Select vehicles, equipment and materials intended for use and check for serviceability</p> <p>2.4 Ensure firearm licences and permits are current and applicable to purpose</p> <p>2.5 Select firearm and ammunition types to comply with recommendations and workplace procedures for target animal</p> <p>2.6 Ensure firearms, ammunition, and stowage for transportation meets licensing requirements</p> <p>2.7 Check and prepare firearm and ammunition</p> <p>2.8 Zero and test firearm according to workplace procedures</p> <p>2.9 Stow firearm for transport according to legislative and regulatory requirements and workplace procedures</p>
3. Shoot animals	<p>3.1 Carry firearm safely with muzzle pointing in safe direction at all times according to industry best practice and workplace procedures</p> <p>3.2 Load, discharge and unload firearm according to safety procedures</p> <p>3.3 Aim firearm at vulnerable organ on the target animal and discharge firearm to kill using a single shot</p> <p>3.4 Check each target animal to ensure it is dead prior to selecting the next target animal</p> <p>3.5 Euthanise target animals that have not been killed cleanly</p> <p>3.6 Handle carcasses required for research or commercial use to minimise personal health and safety and biosecurity risks</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	3.7 Dispose of animal carcasses not required for research or other purposes according to enterprise procedures to minimise biosecurity or public safety and health risks
4. Clean and store equipment and material	4.1 Clean and store carcasses for research or commercial use 4.2 Clean and store equipment and materials according to workplace practices 4.3 Clean, maintain and store firearms in line with regulatory standards 4.4 Store ammunition safely 4.5 Report or record activity completion according to workplace practices

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Writing	<ul style="list-style-type: none"> Accurately completes organisational records and reports using clear language and industry terminology
Navigate the world of work	<ul style="list-style-type: none"> Takes responsibility for following explicit and implicit licencing requirements, policies, procedures, codes of practice and legislative requirements Be up to date with state or territory and federal legislation related to the use of firearms licensing
Get the work done	<ul style="list-style-type: none"> Takes responsibility for planning, sequencing and prioritising tasks and workload Makes routine decisions and implements standard procedures for routine tasks, using formal decision making processes

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCPMG304 Use firearms to humanely destroy animals Release 2	AHCPMG304 Use firearms to humanely destroy animals Release 1	Minor changes to Performance Criteria for clarity Updated Performance Evidence and Knowledge Evidence	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCPMG304 Use firearms to humanely destroy animals

Modification History

Release	Comments
Release 2	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 3.0.
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 1.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit. There must be evidence that on at least one occasion the individual has demonstrated the skills to use a firearm to euthanise animals, including:

- planned the shoot within the boundaries and location of the target animal its range and habitat according to the timeframe, pest management plan and monitoring program
- ensured licences and permits were valid and applicable and environmental and public safety risks were mitigated
- identified target animal and its anatomical vulnerabilities for a clean kill
- operated a firearm safely in accordance with statutory requirements
- zeroed and test fired the firearm safely at a range under supervision at a distance that is commensurate with the target animals to be destroyed
- selected and checked serviceability of transport, equipment, firearms and ammunition, and stowed the firearm and ammunition safely for transport
- cleaned, maintained and stored equipment, firearms and ammunition safely and in accordance with statutory requirements
- checked target animal was dead, and euthanised immediately, if signs of life, according to relevant animal welfare codes of practice
- used personal protective equipment (PPE) to handle carcasses to ensure health and safety in the workplace
- identified health and safety in the workplace hazards and risks and applied control measures and used PPE according to health and safety in the workplace procedures
- applied biosecurity measures when handling, transporting or disposing of carcasses
- maintained records and reporting procedures.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- pest management plan and their purpose
- environmental hazards and risks associated with the use of firearms
- safety hazards and risk management strategies associated with shooting
- checking and preparing a firearm and ammunition
- checking target animal for life after discharging the firearm
- anatomy and physical features and vulnerable organs, or humane points on target animals
- procedures for the safe handling of carcasses required for research or commercial use
- procedures for the safe disposal of animal carcasses not required for other purposes
- reporting and recording procedures required by the pest management plan
- location and boundaries for the shoot
- habitats, habits and range of movement of target animals
- PPE required for the shoot
- firearm's licensing requirements
- firearm and ammunition types recommended for the target animal
- State and territory gun control laws, acts and regulatory requirements including firearms agreements and codes of practice, relating to the use of firearms for euthanising animals
- basic requirements for ensuring the welfare of animals described in the relevant Codes of Practice
- prevention of cruelty to animals legislation applicable to destruction of animals
- basic requirements for biosecurity in the context of destruction of animals.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in an outdoor field environment with pest animals or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - pest animals, carcasses or targets
 - firearms
 - PPE
- specifications:
 - workplace documents including procedures for firearm use
 - operating instructions for firearms
 - licences and permissions to discharge firearms
 - specific legislation and codes of practice for firearm use and animal welfare
- timeframes:
 - checked animal for signs of life after discharge of firearm.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

In addition, the following specific assessor requirements apply to this unit:

- must possess firearms licences
- appropriate experience in using firearms for pest control.

Links

Companion Volumes, including Implementation Guides, are available at VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

AHCPMG309 Apply pest animal control techniques

Modification History

Release	Comments
Release 2	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 3.0.
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 1.0.

Application

This unit of competency describes the skills and knowledge required to apply control techniques for pest animals, in compliance with a pest management plan. This includes involving the use of vertebrate pesticides, traps (except leg hold traps), cages, lures and firearms with the animal humanely destroyed according to industry guidelines or protocols.

The unit applies to individuals who work under broad direction and take responsibility for their own work. They use discretion and judgement in the selection, allocation and use of available resources and for solving problems.

State or territory licensing, legislative or certification requirements apply in some jurisdictions.

Pre-requisite Unit

Nil

Unit Sector

Pest Management (PMG)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for pest control	1.1 Identify control techniques to be used in the pest management plan 1.2 Identify health and safety in the workplace hazards and risks

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>associated with the control technique and apply controls</p> <p>1.3 Identify health and safety hazards and risks in the workplace that could adversely impact on the environment, off-target animals and public and apply controls</p> <p>1.4 Select and check materials, equipment and vehicles according to pest management plan</p> <p>1.5 Clean, calibrate and prepare equipment according to workplace procedures</p> <p>1.6 Obtain permits, permissions and licences for affected properties and follow appropriate notification plan for stakeholders</p> <p>1.7 Prepare timeline for pest control operation according to industry best practise or protocols</p>
2. Implement pest control	<p>2.1 Identify target and non-target animals according to workplace procedures</p> <p>2.2 Select site to maximise impact of control methods on target animals and minimise impact on non-target animals.</p> <p>2.3 Check planned control technique applies to current target pest, site, current conditions and timing</p> <p>2.4 Install notification and warning signage according to control plan and health and safety in the workplace procedures</p> <p>2.5 Carry out control activities according to control plan and health and safety in the workplace procedures</p> <p>2.6 Follow control timelines for control technique</p> <p>2.7 Maintain records of control plan activities and outcomes according to workplace procedures</p> <p>2.8 Monitor site according to control plan and local conditions</p> <p>2.9 Euthanise animals according to pest control plan and workplace procedures</p>
3. Complete the pest control work	<p>3.1 Ensure equipment and unused resources are reconciled against plan and removed from site according to pest control plan and workplace procedures</p> <p>3.2 Dispose of waste and animal carcasses and restore site according to pest control plan, workplace and environmental procedures</p> <p>3.3 Clean, maintain and store equipment and materials according to workplace procedures</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	3.4 Report results of control activities according to workplace procedures and legislative and regulatory requirements

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Read and interpret plans, regulations, and other documentation and consolidates information to determine pest control plan and implement control measures
Writing	<ul style="list-style-type: none"> Accurately complete organisational records, plans and reports using clear language and industry terminology
Numeracy	<ul style="list-style-type: none"> Perform calculations for volumes, weights and measures for application rates of chemicals, baits and materials
Oral Communication	<ul style="list-style-type: none"> Effectively participate in verbal exchanges including active listening and questioning and reading of verbal and non-verbal signals to convey and clarify information to stakeholders
Navigate the world of work	<ul style="list-style-type: none"> Take responsibility for following explicit and implicit policies, procedures, codes of practice and legislative requirements
Get the work done	<ul style="list-style-type: none"> Take responsibility for planning, sequencing and prioritising tasks and workload Make routine decisions and implements standard procedures for routine tasks, using formal decision-making processes

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCPMG309 Apply pest animal control techniques	AHCPMG309 Apply pest animal control techniques Release 1	Minor changes to consolidate Performance Criteria for clarity	Equivalent unit

Release 2		Updated Performance Evidence and Knowledge Evidence	
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Links

Companion Volumes, including Implementation Guides, are available at VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCPMG309 Apply pest animal control techniques

Modification History

Release	Comments
Release 2	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 3.0.
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 1.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit. There must be evidence that on at least one occasion the individual has demonstrated that they have applied a pest animal control technique, including:

- identified the control techniques and selected equipment and resources required
- Identified hazards and risks and controls measure
- identified target and non-target animals
- obtained permits and licences and notified stakeholders of intended works
- checked vehicles, selected equipment and materials for serviceability and cleaned equipment before and after implementation
- prepared timeline and selected and prepared the site for control activity and restored it on completion
- prepared, installed and checked, safety warning signs, control equipment, materials according to plan
- applied controls according to timelines and control plan
- reconciled controls against plan within specified timeframes
- recorded details of control activities to comply with enterprise and legislative requirements
- reported results of control
- reconciled, cleaned and maintained equipment and disposed of waste according to workplace and environmental procedures.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- requirements for ensuring the welfare of animals described in the relevant Codes of Practice and standard operating procedures
- the purpose and scope of the animal control program
- suitable control techniques and timing of control activities based on:
 - the target animal's range, movement patterns, behaviour and habitats
 - the reproductive cycle of the target animal
 - target animal behaviours and biology relevant to control technique
 - food preferences, both general and local, of target animals
 - scent station and other animal tracks and traces
 - target pests and non-target native animals found in the area
 - the environment and terrain of the target area
- appropriate calibre of firearm required to euthanise animals
- euthanasia procedures, including capture and kill points for animals
- licencing, permissions and notification protocols
- precautions that need to be taken to minimise harm to non-target animals
- health and safety in the workplace procedures that relate to animal control activities including personal protective equipment
- recording and reporting requirements
- procedures for using, recording and reconciling baits and poisons
- relevant legislation for pest animal control activities
- transportation methods for captured animals or carcasses
- land reparation works, waste disposal and the environment.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in the field or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - live pest animals
 - tools and equipment used for pest animal control program
 - personal protective equipment
- specifications:
 - workplace documents including policies, procedures, processes and forms for record keeping
 - use of manufacturers' operating instructions for specific equipment, machinery
 - safety data sheets
 - workplace instructions and client briefs
 - specific legislation and codes of practice.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

In addition, the following specific assessor requirements apply to this unit if firearms are used to destroy animals:

- must possess firearms licences
- appropriate experience in using firearms for pest control.

Links

Companion Volumes, including Implementation Guides, are available at VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

AHCSAW203 Conduct erosion and sediment control activities

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to control erosion and sediment using earthworks construction and other land forming activities, usually using a single earthmoving machine in varied conditions and terrains that requires the plant operator to develop skills that are unique to this sector.

The unit applies to individuals who work under general supervision and exercise limited autonomy with some accountability for their own work. They undertake defined routine activities.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Soil and Water Conservation (SAW)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to work	1.1 Read and interpret work instructions and clarify with supervisor 1.2 Prepare tools and equipment and use according to instructions and biosecurity procedures 1.3 Identify workplace health and safety hazards and report to

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	supervisor for instructions on controls 1.4 Select, check and use personal protective equipment
2. Conduct erosion and sediment control activities	2.1 Identify erosion and sediment risks at a site and confirm with supervisor 2.2 Assemble structures to prevent erosion and control sediment 2.3 Carry out sediment control and maintenance activities 2.4 Operate tools, machinery and equipment according to operator instructions
3. Complete work	3.1 Dispose of or recycle soil and waste material from the site according to environmental procedures 3.2 Clean, store and maintain tools and equipment according to workplace and biosecurity procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Oral Communication	<ul style="list-style-type: none"> Interact effectively with supervisor when seeking direction using clear language and appropriate concepts, tone and pace

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCSAW203 Conduct erosion and sediment control activities	AHCSAW201 Conduct erosion and sediment control activities	Minor changes to Application and Performance Criteria Updated Foundation Skills, Performance	Not equivalent

Code and title current version	Code and title previous version	Comments	Equivalence status
		Evidence, Knowledge Evidence and Assessment Conditions	

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCSAW203 Conduct erosion and sediment control activities

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has performed erosion and sediment control on at least two different sites with distinctly different terrain and soil conditions.

There must also be evidence that the individual has:

- conducted erosion and sediment control activities as instructed by a supervisor
- identified hazards and followed safe operating procedures for each site
- identified erosion and sediment control structures, measures and practices
- carried out routine work using control measures and structures
- identified areas at risk of erosion
- operated machinery tools and equipment safely and efficiently
- followed biosecurity procedures.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- need of erosion and sediment, including:
 - importance of erosion and sedimentation to the community
 - effect on loss of habitat
 - effect on water quality
 - loss of production, assets and amenities
- maintenance, repair and monitoring requirements for erosion and sediment controls
- agents and processes of erosion and sedimentation, and ways to control them
- types of erosion and sediment control structures, and techniques for constructing them
- role of vegetation in erosion control
- basic catchment issues

- basic characteristics of erodible soils
- environmental and biosecurity procedures.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated on at least two different sites with distinctly different terrain and soil characteristics
- resources, equipment and materials:
 - tools, equipment and machinery for installing erosion and sediment controls specific to the site requirements
 - consumables and materials required for erosion controls
 - personal protective equipment
- specifications:
 - manufacturer operating instructions for equipment and machinery
 - workplace instructions and specifications
- relationships:
 - supervisor.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

AHCSAW304 Implement erosion and sediment control measures

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to construct, install and maintain a range of measures specified on erosion and sediment control plans.

The unit applies to individuals who work under broad direction and take responsibility for their own work, including limited responsibility for the work of others. They use discretion and judgement in the selection, allocation and use of available resources and for solving problems.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Soil and Water Conservation (SAW)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for implementation and construction	1.1 Confirm erosion and sediment control site and work requirements with maps, plans and specifications 1.2 Identify and locate worksite and surveyed work according to maps and site plans 1.3 Select, check and prepare machinery and equipment required for

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	erosion and sediment control work 1.4 Verify the suitability of equipment and attachments for terrain and control works 1.5 Identify hazards, assess risks and implement controls according to workplace health and safety and environmental procedures 1.6 Select, check and use personal protective equipment 1.7 Select materials required for proposed works according to plans and specifications
2. Carry out implementation and construction	2.1 Coordinate work sequence with work team according to planned works 2.2 Operate tools and equipment safely using techniques suitable for terrain, site conditions and other operators and site worker safety 2.3 Construct erosion and sediment control earthworks according to specifications
3. Carry out repairs and maintenance procedures	3.1 Monitor site operations and identify and resolve performance issues according to workplace procedures 3.2 Clean, maintain and store machinery, tools and equipment according to environmental and biosecurity procedures 3.3 Maintain records according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret basic construction plans and specifications for erosion control works and consolidate information to determine equipment required, methods and location of works and the tolerances required
Numeracy	<ul style="list-style-type: none"> Make measurements and perform calculations to check site layout against plans for erosion and sediment control works Make basic volumetric calculations for measuring and estimating

Skill	Description
	materials during construction works

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCSAW304 Implement erosion and sediment control measures	AHCSAW302 Implement erosion and sediment control measures	Changes to Application and Performance Criteria for clarity Updated Foundation Skills, Performance Evidence, Knowledge Evidence and Assessment Conditions	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCSAW304 Implement erosion and sediment control measures

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has conducted erosion and sediment control activities on at least one conservation worksite, and has constructed, installed and maintained at least three erosion and sediment control measures.

There must also be evidence that the individual has:

- identified hazards, assessed risk and implemented controls
- read and followed plans for construction work and site construction layout
- implemented site and equipment repairs and maintenance according to workplace procedures
- selected and operated tools and equipment according to safe work practices and manufacturer instructions
- cleaned, maintained and stored equipment, machinery and tools according to workplace and biosecurity procedures.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- construction and site plan types, reading and interpretation
- erosion and sediment control methods and construction techniques
- materials cartage pollution control
- operational planning skills to sequence and schedule the timing/duration of work
- workplace health and safety issues relating to erosion and sediment control works, including:
 - equipment
 - site-specific risks
 - personal protective equipment

- sun protection
- type and operation of machinery and equipment used for erosion and sediment control, including:
 - safety checks
 - site access and operational restrictions
 - maintenance
 - environmental protection from fuels and oils
 - impact of tools and machinery on biosecurity
- materials suitable for constructing erosion and sediment control measures, and where to source them on site
- limitations of structures, including:
 - timing of maintenance
 - structure life cycle
 - specifications and standards for construction.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated on a conservation worksite or in an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - tools, equipment and materials for installing specified erosion and sediment controls
 - personal protective equipment
- specifications:
 - workplace policies, procedures and processes for safety, biosecurity and environmental safety
 - manufacturer operating instructions for specific equipment and machinery
 - workplace instructions and plans
- relationships:
 - supervisor.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

AHCWRK215 Collect and record production data

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 9.0.

Application

This unit of competency describes the skills and knowledge required to collect and record production data obtained from a variety of sources.

The unit applies to individuals who collect and record production data under general supervision with limited autonomy or accountability.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Work (WRK)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Identify production data to be collected	1.1 Confirm requirements of data to be collected with supervisor or by reading work instructions 1.2 Select, fit and use personal protective equipment (PPE) applicable to the task 1.3 Prepare and use tools, equipment and materials required for data collection, and calibrate according to supervisor instructions 1.4 Identify difficulties that may be encountered in collecting the data,

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	and seek supervisor advice 1.5 Communicate advice about the proposed data collection to co-workers as required 1.6 Identify and report workplace health and safety hazards and risks to supervisor
2. Collect and record production data	2.1 Collect production data 2.2 Record production data in the correct format and to meet specific requirements
3. Present and store production data	3.1 Present production data in the correct format and to meet specific requirements 3.2 Store production data sheets according to workplace procedures 3.3 Download and enter production data into a computer using specified formats and applications according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret workplace instructions to formulate an understanding of expected requirements and activity
Writing	<ul style="list-style-type: none"> Prepare workplace records accurately using clear language and industry relevant terminology
Oral communication	<ul style="list-style-type: none"> Use clear language and standard industry terminology to clarify instructions and communicate with supervisor Participate in verbal exchanges to share knowledge and information with co-workers
Numeracy	<ul style="list-style-type: none"> Estimate, calculate and record routine workplace data Use basic mathematical processes of addition, subtraction, division, multiplication, percentages, decimal points and ratios

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCWRK215 Collect and record production data	AHCWRK207 Collect and record production data	Minor changes to application Major and minor changes to performance criteria Foundation skills added Major and minor edits to performance and knowledge evidence and assessment conditions	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCWRK215 Collect and record production data

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 9.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has collected and recorded production data on at least one occasion and has:

- followed workplace procedures relevant to collecting and recording production data
- applied workplace health and safety requirements, including fitted and used personal protective equipment (PPE)
- prepared and used tools, equipment and materials required for data collection
- calibrated tools and equipment
- referred to data to complete work activities
- identified workplace health and safety hazards and risks, and reported to supervisor
- collected data as part of the work role or job function
- entered data into specified written and electronic formats
- stored data in the prescribed location and format
- downloaded and entered data on a computer.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- purposes for which the recorded data might be used
- workplace procedures relevant to collecting and recording production data, including reporting methods and requirements
- workplace requirements applicable to health and safety in the workplace for collecting and recording production data, including appropriate use of PPE
- tools and equipment calibration methods and purpose
- software programs used for recording or storing data.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - a workplace setting or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - production data
 - computer hardware and software
 - PPE applicable to collecting and recording production data
- specifications:
 - workplace health and safety legislation, regulations, codes of practice and workplace procedures relevant to collecting and recording production data
- relationships:
 - co-workers and supervisor.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

AHCWRK314 Monitor weather conditions

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 9.0.

Application

This unit of competency describes the skills and knowledge required to monitor and interpret weather and climate conditions and assess the likely impact on work functions and activity.

The unit applies to individuals who monitor weather conditions under broad direction and take responsibility for their own work.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Work (WRK)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Interpret weather and climate information	1.1 Review weather and climate information and warnings to determine likely conditions 1.2 Anticipate and assess potential variations in weather and climate conditions according to weather information and reports 1.3 Identify the possible impacts of weather and climate on workplace activity 1.4 Identify and review options for appropriate preventative actions

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
2. Carry out preventative actions within the workplace	2.1 Disseminate information and advice according to workplace procedures 2.2 Plan preventative action according to the known effects on workplace activities 2.3 Implement actions to minimise adverse effects on workplace activities 2.4 Adjust and revise workplace activities and schedules according to weather conditions
3. Monitor weather and climate	3.1 Access regular weather updates to determine the ongoing suitability of current programs 3.2 Review the viability and scheduling of work tasks to align with predicted weather conditions 3.3 Record weather information according to workplace requirements

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret weather reports, warnings and data from a range of sources
Writing	<ul style="list-style-type: none"> Record weather and climate data according to workplace procedures using appropriate language, grammar and terminology
Numeracy	<ul style="list-style-type: none"> Perform mathematical calculations to interpret and compare weather data

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCWRK314 Monitor weather conditions	AHCWRK302 Monitor weather conditions	Minor changes to application Major and minor changes to performance criteria and foundation skills Major and minor edits to performance and knowledge evidence and assessment conditions	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCWRK314 Monitor weather conditions

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 9.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has monitored weather conditions on at least two occasions and has:

- interpreted weather and climate information and considered the impact on work activities and current operations
- interpreted weather and climate conditions to determine preventative actions
- communicated warnings and concerns to others according to workplace procedures
- implemented preventative actions to minimise impact of adverse weather conditions on workplace activities
- monitored ongoing changes to weather conditions, and reviewed prevention actions
- recorded weather information according to workplace requirements.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- weather and climate conditions and their impact upon agriculture, horticulture and conservation activities, including:
 - humidity
 - temperature
 - sunlight light
 - delta T (ΔT)
 - frosts
 - inversions
 - dew point
 - wind force and direction
 - rainfall precipitation rate and frequency

- methods of monitoring and interpreting weather and climatic conditions, including:
 - bureau of meteorology
 - local weather stations
 - weather meters
- workplace and industry procedures for monitoring weather and climate conditions and recording and reporting
- effect of adverse weather conditions on agriculture, horticulture and conservation activities
- strategies to mitigate effects of adverse weather and climatic conditions on agriculture, horticulture and conservation activities.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - a workplace setting or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - weather reports, warnings and climate data relevant to workplace
 - computer hardware and software or similar technologies to access weather data
- specifications:
 - workplace procedures, instructions or job specifications relevant to assessing the effects of weather conditions
- relationships:
 - team members.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

AHCWRK323 Operate in isolated and remote situations

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 9.0.

Application

This unit of competency describes the skills and knowledge required to plan, prepare for and work safely in isolated and remote situations.

The unit applies to individuals who operate in isolated and remote situations under broad direction, and take responsibility for their own work.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Work (WRK)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan for operating in remote environments	1.1 Collate and record information relating to the operating environment and location 1.2 Establish detailed operating plans for work, travel, emergencies, timeframes and contingencies with supervisor 1.3 Notify appropriate authorities of the action plans and time schedules according to workplace procedures 1.4 Identify and source relevant maps

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	1.5 Conduct a risk assessment for potential hazards and risks for remote location, and implement safe working practices to manage risks
2. Prepare for operating in remote environments	<p>2.1 Prepare personal needs for remote situation according to operating plan</p> <p>2.2 Select, fit and store personal protective equipment (PPE) applicable to the task</p> <p>2.3 Prepare transportation and equipment required for prescribed work according to workplace procedures</p> <p>2.4 Obtain and review relevant maps prior to departure to orient and plan route</p> <p>2.5 Record planned activities and itinerary prior to departure according to workplace procedures</p> <p>2.6 Identify weather conditions and assess effect on travel and operating outcomes</p>
3. Prepare for emergency situations	<p>3.1 Arrange provisioning according to operational and emergency requirements</p> <p>3.2 Participate in remote area survival skills training prior to departure</p> <p>3.3 Apply emergency management operational plans according to workplace policies and procedures</p>
4. Operate in remote environment	<p>4.1 Carry out activities in remote situations according to prescribed plans and procedures</p> <p>4.2 Use and maintain PPE applicable to the task</p> <p>4.3 Monitor available provisions and resources to ensure appropriate usage according to operating plan</p> <p>4.4 Use appropriate skills to modify the living environment according to prevailing conditions</p> <p>4.5 Use appropriate technologies to maintain communication according to workplace procedures</p> <p>4.6 Handle emergency situations according to prescribed plans and workplace procedures</p> <p>4.7 Comply with workplace reporting procedures on return to base</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret symbols and features on maps to determine special awareness
Oral communication	<ul style="list-style-type: none"> Use clear language and concepts, and tone and pace appropriate for discussions with supervisor when planning and reporting

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCWRK323 Operate in isolated and remote situations	AHCWRK312 Operate in isolated and remote situations	Minor changes to application Major and minor changes to performance criteria and foundation skills Major and minor edits to performance and knowledge evidence and assessment conditions	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCWRK323 Operate in isolated and remote situations

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 9.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has operated in an isolated and remote environment on at least one occasion and has:

- planned and prepared for operating in remote environments in conjunction with supervisor
- sourced and interpreted maps of the remote area
- conducted a risk assessment for workplace health and safety, and environmental hazards for remote location
- applied workplace health and safety requirements, including fitted and used personal protective equipment (PPE)
- maintained records according to workplace procedures
- prepared and implemented procedures for emergency situations
- prepared and monitored provisions and resources for essential and emergency needs
- conducted work activities safely in a remote environment
- used bushcraft skills to modify the living environment and reduced risks
- implemented workplace communication procedures to notify location, activities and travel to appropriate personnel.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- planning and preparations required for working in isolated environments
- map reading and navigation skills, including:
 - direction finding, including GPS and compass
 - local topography
 - habitation

- geographic indicator
- workplace risk assessment techniques
- clothing requirements for adverse weather conditions
- workplace requirements applicable to health and safety in the workplace for operating in isolated and remote situations, including appropriate use of PPE
- emergency vehicle and mechanical equipment repair
- environmental impacts of work in isolated and remote situations, including weather patterns and indicators
- basic survival and bushcraft skills to maintain human needs in survival situations, including:
 - making a fire
 - cooking
 - distress signalling
 - basic rope skills and useful knots
- communication procedures and operation and maintenance of communications equipment, including:
 - field communications by two-way radio
 - satellite telephony
 - HF or UHF radio
- basic first aid procedures for common injuries.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in an isolated and remote environment or an environment that accurately represents working in an isolated and remote environment
- resources, equipment and materials:
 - provisions and resources required for an isolated worksite
 - communications and navigational equipment
 - basic survival tools and equipment
 - tools and equipment for work activities
 - PPE applicable to operating in isolated and remote working environments
- specifications:
 - workplace documents, including policies, procedures, processes, instructions and job specifications
 - manufacturer operating instructions for specific communications and navigational equipment
- relationships:
 - supervisor.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

AHCWRK404 Implement quality assurance procedures

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 9.0.

Application

This unit of competency describes the skills and knowledge required to implement quality assurance procedures.

The unit applies to individuals who apply specialist skills and knowledge to implementing quality assurance procedures. This includes applying and communicating non-routine technical solutions to predictable and unpredictable problems.

All work must be carried out to comply with workplace procedures, health and safety in the workplace requirements, legislative and regulatory requirements.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Work (WRK)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Establish quality specifications for product	1.1 Source market requirements for product 1.2 Identify product quality specifications
2. Identify hazards and critical control points in	2.1 Identify hazards and critical control points impacting on product

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
the production of quality product	quality 2.2 Determine the degree of risk for each hazard 2.3 Establish an industry-based systematic approach to quality assurance (QA)
3. Assist in planning of quality assurance procedures	3.1 Develop procedures for each identified control point to meet quality requirements 3.2 Minimise hazards and risks by application of appropriate controls 3.3 Develop QA recordkeeping templates 3.4 Develop processes to monitor the effectiveness of QA procedures 3.5 Establish a document control register
4. Implement quality assurance procedures	4.1 Allocate responsibilities for carrying out QA procedures to staff and contractors 4.2 Prepare QA instructions 4.3 Provide staff and contractors with induction training on the QA policy 4.4 Provide staff and contractors with on-job training relevant to their allocated procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Identify and interpret information regarding QA requirements
Writing	<ul style="list-style-type: none"> Use clear language, accurate industry terminology and logical structure to complete QA recordkeeping templates, procedures, processes and instructions
Oral communication	<ul style="list-style-type: none"> Initiate discussions with staff and contractors, using clear language and standard industry terminology to allocate responsibilities and provide training

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCWRK404 Implement quality assurance procedures	AHCWRK401 Implement and monitor quality assurance procedures	Minor changes to unit title and application Major and minor changes to performance criteria Foundation skills added Major and minor edits to performance and knowledge evidence and assessment conditions	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCWRK404 Implement quality assurance procedures

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 9.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has implemented quality assurance procedures on at least one occasion and has:

- sourced and identified product market requirements and quality specifications
- identified hazards and critical control points in the production of quality product
- established an industry-based systematic approach to quality assurance (QA)
- assisted in planning of QA procedures
- developed QA recordkeeping templates
- established document control registers
- allocated responsibilities for carrying out QA procedures
- implemented QA procedures
- provided staff and contractor induction and on-job training.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- market requirements for product
- quality specifications for product
- definition of quality
- workplace and industry QA systems, including recordkeeping templates and document control registers
- industry QA principles and techniques, and their application
- strategies for control of hazards to quality
- contingency management
- staff delegation and empowerment
- workplace training strategies.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - a workplace setting or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - products relevant to the industry sector
- specifications:
 - product market requirements and quality specifications
 - codes of practice relevant to quality
- relationships:
 - staff and contractors.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

AHCWRK508 Interpret legislation

Modification History

Release	TP Version	Comment
1	AHCv1.0	Initial release

Application

This unit of competency describes the skills and knowledge required to interpret and apply legislation.

This unit applies to individuals who take personal responsibility and exercise autonomy in undertaking complex work. They demonstrate deep knowledge in a specific technical area and analyse, design and communicate solutions to sometimes complex problems.

No occupational licensing, legislative or certification requirements are known to apply to this unit at the time of publication.

Pre-requisite Unit

Nil.

Unit Sector

Work (WRK)

Elements and Performance Criteria

Element	Performance criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Determine applicable legal framework	1.1 Identify and access current legislation, regulations, organisational procedures, standards and codes of practice affecting the workplace, industry, occupation or client 1.2 Determine legal accountability obligations in relation to workplace, industry, occupation or client

Element	Performance criteria
	1.3 Identify consequences of non-compliance with legislation, regulations, organisational procedures, standards and codes of practice
2. Research, interpret and apply appropriate legislation	2.1 Monitor sources of information for changes to the legal framework 2.2 Regularly update and communicate information and changes to legal framework components which impact on work activities
3. Promote compliance with relevant legislation	3.1 Access current information about the range of legislation and other legally binding policies and protocols relating to own work 3.2 Clarify compliance requirements to confirm understanding and ensure consistency of interpretation and application 3.3 Obtain advice to assist in applying relevant legislation to own work and identifying compliance requirements 3.4 Identify areas of uncertainty in own work related to compliance requirements and take action to clarify issues 3.5 Identify possible implications of non-compliance and use these to guide own work practices
4. Assess situations which may potentially present legal problems and issues	4.1 Identify and document details of suspected or actual incidences of illegal conduct by self or others in the workplace 4.2 Contribute to ongoing monitoring and compliance with legal framework 4.3 Ensure that work is undertaken in a legally compliant manner 4.4 Recognise limits of own expertise, legal accountability obligations and access appropriate sources of expertise as required 4.5 Assess conduct of self and others in the workplace against specific components of the legal framework applicable to the workplace 4.6 Take appropriate actions to resolve or report illegal conduct, as required by applicable legislation, regulations, organisational procedures, standards and codes of practice

Foundation Skills

Foundation Skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Unit Mapping Information

This unit is equivalent to AHCWRK508A Interpret legislation

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCWRK508 Interpret legislation

Modification History

Release	TP Version	Comment
1	AHCv1.0	Initial release

Performance Evidence

The candidate must be assessed on their ability to integrate and apply the performance requirements of this unit in a workplace setting. Performance must be demonstrated consistently over time and in a suitable range of contexts.

The candidate must provide evidence that they can:

- determine legislation and legal framework applicable to task
- research, interpret and apply appropriate legislation
- promote compliance with relevant legislation
- assess situations which may potentially present legal problems and issues
- maintain knowledge of legal frameworks and relevant legislation
- develop and implement strategies to manage compliance with appropriate legislation
- provide advice and documentation regarding applicable legislation, regulations, organisational procedures and codes of practice
- use industry standard terminology.

Knowledge Evidence

The candidate must demonstrate knowledge of:

- the provisions contained in key relevant legislation and other legally binding legal policies and protocols from all levels of government that affect the relevant industry
- relevant Australian Standards
- organisational policies and procedures relating to legislation in organisation's functional area
- penalties for non-compliance with legislative requirements
- auditing requirements
- work health and safety requirements applicable to own work and functional area
- the scope of legal practitioner and support role and own responsibilities and obligations to provide legal advice, complete or sign off on legal work and appear in court as described by relevant jurisdictions
- how to encourage and support own compliance and that of others in the workplace

- relevant conventions, treaties, agreements, guidelines, declarations, recommendations, laws and rules
- how to apply legal information to the workplace
- techniques to monitor compliance and identify illegal conduct
- where to find appropriate sources of information and specialist personnel when limits of own expertise are reached in determining applicable legislation
- accepted codes of practice relevant to the workplace including those relating to:
 - privacy and confidentiality
 - use of company property
 - duty of care
 - ethical behaviour
 - non-discriminatory practice
 - conflict of interest
 - compliance with reasonable direction
 - relevant general legal terminology.

Assessment Conditions

Assessors must satisfy current standards for RTOs.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

AHCWRK509 Provide specialist advice to clients

Modification History

Release	TP Version	Comment
1	AHCv1.0	Initial release

Application

This unit of competency describes the skills and knowledge required to maintain technical currency for specialist knowledge and provide specialist advice to clients.

This unit applies to individuals who take personal responsibility and exercise autonomy in undertaking complex work. They demonstrate deep knowledge in a specific technical area and analyse, design and communicate solutions to sometimes complex problems.

No occupational licensing, legislative or certification requirements are known to apply to this unit at the time of publication.

Pre-requisite Unit

Nil.

Unit Sector

Work (WRK)

Elements and Performance Criteria

Element	Performance criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Develop and maintain specialist knowledge	1.1 Use research skills regularly to build a comprehensive knowledge and understanding of specialist information from industry and other sources 1.2 Identify characteristics of industry practices, products and services and analyse using available documentation

Element	Performance criteria
	1.3 Document information and maintain in a format consistent with enterprise requirements 1.4 Apply acquired knowledge to improve quality within personal work areas 1.5 Identify legislative, regulatory and industry requirements relating to own work
2. Consult with clients	2.1 Conduct consultation with clients in a professional and courteous manner at all times 2.2 Use appropriate interpersonal skills to facilitate accurate and relevant exchange of information 2.3 Use work practices that reflect sensitivity to client's requirements, specific needs and cultural, family and individual differences
3. Provide a response to client enquiries and need	3.1 Prepare information relevant to client's needs 3.2 Use research skills to find verifiable evidence in support of information and document in the appropriate format 3.3 Structure information to identify clear benefits to clients and the organisation 3.4 Document and present information in a professional format and style to the client for consideration and discussion 3.5 Evaluate client feedback by survey to improve future provision of technical information and professional services

Foundation Skills

Foundation Skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Unit Mapping Information

This unit is equivalent to AHCWRK509A Provide specialist advice to clients

Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCWRK509 Provide specialist advice to clients

Modification History

Release	TP Version	Comment
1	AHCv1.0	Initial release

Performance Evidence

The candidate must be assessed on their ability to integrate and apply the performance requirements of this unit in a workplace setting. Performance must be demonstrated consistently over time and in a suitable range of contexts.

The candidate must provide evidence that they can:

- develop and maintain industry wide specialist knowledge
- provide a professional service to client enquiries and needs
- show discretion and judgement in stakeholder interaction
- implement professional practice in stakeholder consultation and report documentation
- use industry standard terminology.

Knowledge Evidence

The candidate must demonstrate knowledge of:

- products, treatments services of the industry
- environmental sustainability and land use issues relevant to the industry
- enterprise policy and procedures for customer service including handling customer complaints
- service standards and best practice models
- strategies for planning and monitoring activities
- consultation methods, techniques and protocols
- current enterprise, government and local council policy, legislation and regulations
- mechanisms to obtain and analyse customer feedback.

Assessment Conditions

Assessors must satisfy current standards for RTOs.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

AHCWRK513 Write and present reports

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to write and present reports, including researching and evaluating information, producing a document and delivering a verbal presentation.

The unit applies to individuals who apply specialised skills and knowledge to the preparation of a report, and take personal responsibility and exercise autonomy in undertaking complex work. They analyse and synthesise information, and analyse, design and communicate solutions to sometimes complex problems.

All work must be carried out to comply with workplace procedures, health and safety in the workplace requirements, legislative and regulatory requirements, sustainability and biosecurity practices.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Work (WRK)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Research material	1.1 Identify and clarify report topic and objectives with client

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	1.2 Determine sources of information 1.3 Collect and organise information appropriate to report topic
2. Evaluate information	2.1 Confirm information collected is relevant and sufficient to address report objectives 2.2 Seek clarification and assistance as required where information is unclear or difficult to understand 2.3 Obtain additional information where available information is inadequate 2.4 Assess information for its validity and reliability, and organise into a suitable form to aid decision making 2.5 Confirm that conclusions drawn from relevant information are based on reasoned argument and appropriate evidence
3. Produce a document	3.1 Use industry standard terminology and language that is applicable to the task and audience 3.2 Organise the report logically, and confirm it is structured and balanced according to purpose, audience and context 3.3 Present report in required format 3.4 Confirm that conclusions reached reflect the stated objectives of the report 3.5 Complete preparation within the specified timeframe
4. Deliver a verbal presentation	4.1 Confirm language is applicable to the task and audience 4.2 Use concise and well-presented support materials to support oral presentations 4.3 Allocate sufficient time to allow clear presentation of the desired topic 4.4 Deliver verbal presentation within specified time

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Identify and interpret information regarding the report topic
Numeracy	<ul style="list-style-type: none"> Access, analyse and organise data applicable to the report topic for input into report

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCWRK513 Write and present reports	AHCWRK503 Prepare reports	Title updated Performance criteria clarified Foundation skills added Assessment requirements updated	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCWRK513 Write and present reports

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has written and presented a separate report on at least two occasions, and has:

- identified and verified the purpose of the report with the client
- conducted research and compiled information
- drawn conclusions from research supported by reasoned argument and supporting information
- produced a correctly formatted report that uses appropriate language and industry standard terminology, is arranged in a logical order, and provides details on information sources and consultation
- made recommendations if required, and referenced to information and conclusions
- delivered a verbal presentation within a specified time using language applicable to the task and audience.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- information and research sources that may be used to develop reports
- report and presentation structure
- public presentation techniques and approaches.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:

- a workplace setting or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - industry publications and internet sources of information relevant to the development of a report
- relationships:
 - appropriately experienced and qualified person, client and work colleagues
- timeframes:
 - according to the job requirements.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

AVIY0028 Operate remotely piloted aircraft in excluded category sub-2 kg operations

Modification History

Release 1. This is the first release of this unit of competency in the AVI Aviation Training Package.

Application

This unit of competency involves the skills and knowledge to operate a Remotely Piloted Aircraft System (RPAS) in excluded sub-2 kg category operations. It includes operating within the relevant regulatory requirements of the Civil Aviation Safety Authority (CASA).

This unit addresses flight planning, pre-flight inspection, operating an RPAS during normal flight, managing an RPAS during abnormal or emergency procedures and landing.

The unit is applicable to personnel who pilot Remotely Piloted Aircraft (RPA) in excluded category sub-2 kg operations in visual line of sight (VLOS). They may work individually or under supervision as part of a team. Authorisation to perform this role is subject to organisational policies and procedures.

Excluded category operators are still required to obtain necessary CASA approvals.

Legislative or certification requirements to fly in this category apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Competency Field

Y - Aircraft Operation and Traffic Management.

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential Performance criteria describe the performance needed to

outcomes.

demonstrate achievement of the element.

1 Plan flight

1.1 Flight requirements are identified

1.2 Relevant CASA approved apps are consulted

1.3 Permission is obtained from relevant stakeholders prior to operations

1.4 Hazards are identified, risks are assessed and risk controls are implemented

1.5 Awareness of current and forecast weather conditions is maintained

1.6 Effects of wind velocity, adverse environmental conditions and contingency actions are planned for

2 Perform pre-flight inspection

2.1 RPAS hardware and software checks are carried out in accordance with manufacturer's instructions

2.2 Pre-operating inspection is recorded where applicable and in accordance with organisational requirements

3 Take off and climb RPAS

3.1 Take-off is conducted appropriate to RPAS type, with allowance for environmental conditions

3.2 Pre-departure control inputs are verified

3.3 RPAS control is maintained and aligned in the departure direction

3.4 CASA standard operating conditions for operating a RPAS are followed

3.5 RPAS climb is conducted in accordance with operational requirement

3.6 RPAS performance is monitored

3.7 Airspace awareness is consistently maintained

4 Control RPAS in flight

4.1 Power, altitude and configuration are set to achieve stable flight

4.2 Indications of height change are identified and responded to, to appropriately maintain safe operation

4.3 RPAS operating limits are maintained in accordance with manufacturer's instructions

- | | | |
|--|------------|---|
| | 4.4 | Flight path is observed and risks are managed in accordance with operational requirement |
| 5 Manage RPAS during abnormal or emergency situations | 5.1 | Abnormal or emergency situations are identified and communicated to relevant personnel |
| | 5.2 | Appropriate abnormal or emergency action is decided and implemented |
| 6 Descend and land RPAS | 6.1 | Appropriate inputs are made to altitude and power to achieve required descent rate |
| | 6.2 | Flight path is observed during descent and risks managed in accordance with requirements |
| | 6.3 | Landing is conducted appropriate to RPAS type, with allowance for environmental conditions |
| | 6.4 | Control of RPAS is maintained for safe landing |
| | 6.5 | RPAS is powered down according to RPAS type |
| 7 Complete post-flight requirements | 7.1 | Flight time recording requirements are accurately transcribed |
| | 7.2 | After landing checks are performed in accordance with approved checklist or manufacturer's instructions or operational requirements |
| | 7.3 | Post-flight paperwork is completed and submitted as required |

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the AVI Aviation Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This is a new unit. No equivalent unit.

Links

AVI Training Package Companion Volume Implementation Guide available on VET Net: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816>

Assessment Requirements for AVIY0028 Operate remotely piloted aircraft in excluded category sub-2 kg operations

Modification History

Release 1. This is the first release of this unit of competency in the AVI Aviation Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- adjusting altitude and power to achieve required Remotely Piloted Aircraft System (RPAS) altitude, configuration to achieve straight and level flight, and descent rate
- assessing risks and implementing risk controls
- completing RPAS climb
- completing pre-departure checks, including one or more of the following:
 - global positioning system (GPS) lock
 - loitering
 - control inputs to hover
 - controls checked, including return to home
- conducting landing appropriate to RPAS type with allowance for environmental conditions
- following Civil Aviation Safety Authority (CASA) standard operating conditions and regulations
- identifying and managing hazards
- identifying and communicating abnormal and/or emergency situations
- implementing appropriate abnormal or emergency actions
- maintaining airspace awareness
- monitoring current and forecast weather conditions
- observing flight path during ascent and descent
- operating a RPAS during normal flight, including launch, maintaining a straight line, turning, descending, landing and responding to indications of height change
- operating the RPAS within CASA regulations for excluded category
- performing post-landing checks
- planning for flight and effects of wind velocity, adverse environmental conditions and contingency actions
- recording pre-operating inspection where applicable
- checking relevant CASA approved apps
- stopping an RPAS within designated area
- transcribing applicable flight time records.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- actions in event of lithium battery fire
- approved CASA apps
- appropriate post-flight documentation, including:
 - incident reporting
 - damage reports
 - flight logs
- environmental considerations, including:
 - noise and wildlife considerations
 - populated and unpopulated areas
- factors affecting directional control of RPAS
- functions and effects of all RPAS controls
- functions and effects of RPAS software control systems
- manufacturers' specifications for operating an RPAS
- pre-launch and after launch checks
- relevant air space classification
- relevant sections of Civil Aviation Safety Regulations and Civil Aviation Orders related to sub-2 kg drones for business use - excluded category required flight documentation
- RPAS performance limitations
- relevant CASA regulations for RPAS registration, licensing and certification
- safe transport of lithium batteries on commercial aircraft
- standard operating conditions of operating in the excluded category
- work health and safety (WHS) requirements related to RPAS.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in a simulated workplace operational situation that reflects workplace conditions.

Flight time must include a range of distances, heights and tasks within visual line of sight that allows the student to demonstrate competence.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercise and/or simulations
- acceptable means of simulation assessment
- applicable documentation, including workplace procedures, regulations, codes of practice and operation manuals
- relevant materials, tools, equipment and personal protective equipment (PPE) currently used in industry.

Links

AVI Training Package Companion Volume Implementation Guide available on VET Net: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816>

BSBFIN501 Manage budgets and financial plans

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to undertake financial management in an organisation or work area. It includes planning and implementing financial management approaches and supporting and evaluating effectiveness of financial management processes.

The unit applies to managers in a wide range of organisations and sectors who have responsibility for the effective use of financial resources within work teams. They are responsible for ensuring that financial resources are managed in line with the financial objectives of the team and organisation.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Business Competence – Financial Literacy

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan financial management approaches	1.1 Access budget and financial plans for work team 1.2 Evaluate budget and financial plan outcomes with required organisational personnel 1.3 Negotiate any changes required to be made to budget and financial plans with required organisational personnel 1.4 Prepare contingency plans in the event that initial plans need to be varied
2. Implement and monitor financial	2.1 Communicate details of agreed budget and financial plans to relevant team members

ELEMENT	PERFORMANCE CRITERIA
management plans	<p>2.2 Support team members to access resources and systems to perform required roles</p> <p>2.3 Implement processes to monitor actual expenditure, control costs and modify contingency plans as required according to financial objectives</p> <p>2.4 Report on budget and expenditure according to organisational protocols</p>
3. Review and evaluate financial management plans	<p>3.1 Collect information on effectiveness of financial management processes within work team</p> <p>3.2 Analyse variance between actual and budgeted finances</p> <p>3.3 Identify and recommend improvements to existing financial management processes</p> <p>3.4 Implement agreed improvements according to financial objectives of work team and organisation</p> <p>3.5 Evaluate agreed improvements</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

SKILL	DESCRIPTION
Numeracy	<ul style="list-style-type: none"> • Uses a wide range of mathematical calculations to analyse numeric information in budgets or financial plans
Oral communication	<ul style="list-style-type: none"> • Presents information about financial issues and requirements to a range of audiences using structure and language to suit audience • Uses active listening and questioning to clarify information and to confirm understanding
Reading	<ul style="list-style-type: none"> • Interprets and analyses information to determine activities required
Writing	<ul style="list-style-type: none"> • Records information in correct forms and prepares materials which convey detailed and factual content according to internal procedures
Teamwork	<ul style="list-style-type: none"> • Uses a range of strategies to connect, collaborate and cooperate with other work colleagues in activities requiring collective effort and diverse skills and knowledge
Initiative and enterprise	<ul style="list-style-type: none"> • Applies organisational requirements in undertaking own work
Planning and organising	<ul style="list-style-type: none"> • Uses logical processes in planning, implementing and evaluating complex tasks and developing alternative strategies to achieve goals

SKILL	DESCRIPTION
	and timelines
Technology	<ul style="list-style-type: none">• Uses a range of digital technologies to access, filter, compile, integrate and logically present complex information from multiple sources

Unit Mapping Information

Supersedes and is equivalent to BSBFIM501 Manage budgets and financial plans.

Supersedes but is not equivalent to BSBGOV403 Analyse financial reports and budgets.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBFIN501 Manage budgets and financial plans

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- manage the budget and financial plan of an organisation for one reporting period.

In the course of the above, the candidate must:

- communicate with relevant people to clarify budget and financial plans, negotiate changes and disseminate information
- prepare, implement and modify financial contingency plans
- monitor expenditure and control costs
- support and monitor team members
- report on budget and expenditure
- review and make recommendations for improvements to financial processes
- meet record-keeping requirements for Australian Taxation Office (ATO) and for auditing purposes.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- basic accounting principles
- types of budgets and financial plans
- legislation and current ATO requirements, including the Goods and Services Tax (GST)
- key requirements for financial record keeping and auditing
- principles for managing work teams
- principles and techniques involved in managing:
 - budgeting
 - cash flows
 - electronic spreadsheets

- Goods and Services Tax
- ledgers and financial statements
- profit and loss statements
- evaluation of budget and financial plans.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- workplace policies and procedures
- workplace budgets and financial plans.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBHRM413 Support the learning and development of teams and individuals

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to determine individual and team development needs and to facilitate the development of the workgroup.

The unit applies to individuals with a broad knowledge of learning and development who apply their skills in addressing development needs to meet team objectives. They may have responsibility to provide guidance or to delegate aspects of tasks to others.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Technical Skills – Human Resources

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Contribute to needs development	1.1 Collect information on performance of team members from relevant sources 1.2 Identify individual and team learning and development needs in line with organisational requirements 1.3 Confirm learning plans meet individual and group training and development needs 1.4 Provide opportunities to individuals to self-evaluate performance and identify areas for improvement
2. Support implementation of	2.1 Develop collaborative learning plans to match skill needs of individuals and groups and match the competency standards

ELEMENT	PERFORMANCE CRITERIA
learning and development	<p>relevant to the industry</p> <p>2.2 Ensure learning delivery methods are relevant to the participants</p> <p>2.3 Identify and coordinate workplace learning opportunities to facilitate individual and team achievement of competencies</p> <p>2.4 Identify and manage resources and timelines relevant for learning activities according to organisational requirements</p>
3. Monitor and evaluate workplace learning	<p>3.1 Monitor learning plans to improve the efficiency and effectiveness of learning</p> <p>3.2 Seek feedback from individuals or teams to identify and implement improvements in future learning arrangements</p> <p>3.3 Assess and record outcomes and performance of individuals and teams to determine the effectiveness of development programs and the extent of additional development support</p> <p>3.4 Document and maintain records and reports of competency according to organisational requirements</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

SKILL	DESCRIPTION
Learning	<ul style="list-style-type: none"> • Uses structured approaches to set goals, monitor progress and adjust learning approaches for self and others • Builds on knowledge and experience to facilitate interaction and learning with others
Reading	<ul style="list-style-type: none"> • Analyses textual information from a range of sources to identify organisational requirements • Analyses information from a range of sources to evaluate performance
Writing	<ul style="list-style-type: none"> • Develops materials to suit the requirements of different roles and individuals in the organisation • Maintains records using correct technical and organisational vocabulary
Oral Communication	<ul style="list-style-type: none"> • Uses vocabulary appropriate to context and to establish a supportive and learning environment • Uses listening and questioning techniques to confirm or show understanding of different perspectives • Selects and uses appropriate conventions and protocols when communicating with co-workers in a range of work contexts

SKILL	DESCRIPTION
Self-management	<ul style="list-style-type: none"> • Recognises and responds to explicit and implicit organisational procedures and protocols • Understands how own role meshes with others and contributes to broader goals
Teamwork	<ul style="list-style-type: none"> • Recognises the importance of building rapport to establish effective working relationships • Collaborates with others to achieve joint outcomes, playing an active role in facilitating effective group interaction • Negotiates with others to achieve agreeable outcomes playing an active role in facilitating consensus in potentially contentious situations
Problem solving	<ul style="list-style-type: none"> • Uses logical planning processes to organise, implement and monitor learning and development needs • Systematically gathers and analyses all relevant information and evaluates options to make informed decisions • Evaluates outcomes of decisions to identify opportunities for improvement

Unit Mapping Information

Supersedes and is equivalent to BSBLED401 Develop teams and individuals.

Supersedes but is not equivalent to:

- BSBFLM311 Support a workplace learning environment
- BSBLED301 Undertake e-learning.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBHRM413 Support the learning and development of teams and individuals

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- contribute to, facilitate and monitor learning and development for at least one team and for at least one individual.

In the course of the above, the candidate must:

- collect data on team and individual and team development needs
- collaboratively develop learning plans to match skill needs of individuals and groups
- coordinate learning opportunities
- give and receive feedback during the implementation of learning plans
- monitor and review workplace learning plan implementation plans.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- facilitation techniques to support team development and improvement
- organisational policies, plans and procedures for developing teams
- career paths and competency standards relevant to the industry
- key sources of information relevant to inform development needs
- key features of learning and development methods.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- learning and development plans, policies and procedures.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBINS201 Process and maintain workplace information

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to receive, process, and store workplace information and maintain information systems. It also includes the maintenance of records management systems.

The unit applies to individuals who perform a variety of routine tasks in the workplace, using a limited range of practical skills and fundamental knowledge of information and information systems in a defined context, under direct supervision or with limited individual responsibility.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Technical Skills – Information Services

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Collect information	1.1 Confirm task requirements 1.2 Collect physical and digital information items 1.3 Allocate time and date of receipt to relevant information items 1.4 Apply organisational policies and procedures relating to security and confidentiality in handling information
2. Process workplace information	2.1 Enter metadata applying to information items into relevant system according to organisational policies and procedures 2.2 Collate and distribute information according to task requirements

ELEMENT	PERFORMANCE CRITERIA
3. Manage information systems	3.1 Maintain information and relevant classification system according to organisational policies and procedures 3.2 Identify and dispose of inactive unpublished information items or deaccession published information items according to organisational policies and procedures 3.3 Create new files of unpublished information materials according to organisational policies and procedures 3.4 Update registration, accessioning, classification and index systems according to organisational policies and procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Recognises and interprets textual information to complete tasks according to organisational policies and procedures
Writing	<ul style="list-style-type: none"> Records simple and routine content using an established format to organise information
Oral Communication	<ul style="list-style-type: none"> Uses listening and questioning skills to clarify and adhere to requirements
Numeracy	<ul style="list-style-type: none"> Comprehends basic mathematical measurements relating to times and number sequences
Self-management	<ul style="list-style-type: none"> Follows clearly defined instructions and monitors own progress to achieve timelines
Technology	<ul style="list-style-type: none"> Uses digital technologies regarding data entry and retrieval

Unit Mapping Information

Supersedes and is equivalent to BSBINM201 Process and maintain workplace information.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBINS201 Process and maintain workplace information

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- receive and process three pieces of workplace information according to organisational policies and procedures.

In the course of the above, the candidate must:

- record and document information accurately
- store, classify and maintain information materials.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- organisational policies and procedures relating to collecting and processing workplace information
- key aspects of organisational information items management systems and security and confidentiality procedures.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- examples of workplace information systems.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBINS302 Organise workplace information

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to receive, collect, organise and apply workplace information in the context of an organisation's work processes, record managing and knowledge management systems.

The unit applies to those who perform a defined range of skilled operations in various work contexts. They may exercise discretion and judgement using appropriate knowledge of information management to provide technical advice and support to a team.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Technical Skills – Information Services

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Receive, acquire and assess information	1.1 Confirm that proposed methods of receiving and acquiring information meet organisational policies and procedures 1.2 Receive and acquire information according to organisational policies and procedures 1.3 Confirm information is clear, accurate, current and relevant to intended tasks 1.4 Access additional required information from relevant stakeholders
2. Organise information	2.1 Organise information in a format suitable for analysis, interpretation and distribution according to organisational

ELEMENT	PERFORMANCE CRITERIA
	<p>policies and procedures</p> <p>2.2 Store information using relevant systems and technology according to organisational policies and procedures</p> <p>2.3 Distribute information to relevant stakeholders</p> <p>2.4 Identify issues accessing, organising and storing information and solve collaboratively with relevant stakeholders</p>
3. Review information needs	<p>3.1 Seek feedback on clarity, accuracy, relevancy and sufficiency of information</p> <p>3.2 Review feedback and suggest updates to receipt and acquisition processes, where required</p> <p>3.3 Identify and document future information needs and suggest modifications to collection and organisation processes</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Recognises and assesses textual information to complete tasks according to requirements
Writing	<ul style="list-style-type: none"> Completes workplace records, forms and documentation accurately using correct format, accurate spelling and grammar and terminology specific to requirements
Oral Communication	<ul style="list-style-type: none"> Collects information by listening and questioning Participates in a verbal exchange using clear language to contribute information and convey issues
Self-management	<ul style="list-style-type: none"> Understands rights and responsibilities and complies with explicit policies and procedures and legal and regulatory requirements
Teamwork	<ul style="list-style-type: none"> Complies with work instructions and contributes to work group discussions using accepted conventions
Planning and organising	<ul style="list-style-type: none"> Plans and implements routine tasks and workload making decisions about sequencing and timing
Technology	<ul style="list-style-type: none"> Uses digital technology to access and record information and to communicate with others
Problem solving	<ul style="list-style-type: none"> Makes low impact decisions within familiar situations, based on a range of predefined or routine solutions, and evaluates the effectiveness of the outcome

Unit Mapping Information

Supersedes and is equivalent to BSBINM301 Organise workplace information.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBINS302 Organise workplace information

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- gather, assess, organise and distribute three pieces of workplace information.

In the course of the above, the candidate must:

- provide information according to organisational policies and procedures
- use business technology to coordinate information
- communicate with relevant stakeholders to obtain and check workplace information
- monitor, review and modify information organisation processes.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- methods for checking information is clear, accurate, current and relevant for purpose
- organisational policies and procedures relating to workplace information
- features and functions of technology required to store and organise information.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- organisational policies and procedures relevant to workplace information
- examples of information documents found in the workplace.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBLDR301 Support effective workplace relationships

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to gather information and support effective relationships and networks, with particular regard to communication and representation.

The unit applies to individuals who use leadership skills to support the development of teams and help facilitate communication between team members.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Social Competence – Leadership

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Gather information and ideas	1.1 Identify information on work roles and objectives of work team 1.2 Locate and communicate to work team organisational processes for communication and teamwork 1.3 Establish scope of own role 1.4 Seek contributions for refining ideas and approaches to teamwork and communication according to organisational processes 1.5 Identify and consult with team members on potential work-related issues
2. Develop team relationships and networks	2.1 Encourage communication within team according to organisation's social, ethical and business policies and procedures

ELEMENT	PERFORMANCE CRITERIA
	2.2 Adjust interpersonal styles and methods in relation to the organisation's social and cultural environment 2.3 Identify and use workplace networks to help build relationships 2.4 Identify and describe the value of networks and other work relationships for the team and the organisation
3. Contribute to positive team outcomes	3.1 Identify issues to be rectified within own level of responsibility and according to organisational and legal requirements 3.2 Support colleagues in resolving work difficulties related to own level of responsibility, according to organisational and legal requirements 3.3 Review team outcomes and implement improvements in consultation with relevant personnel 3.4 Contribute constructively to conflict resolution according to organisational policies and processes

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

SKILL	DESCRIPTION
Reading	<ul style="list-style-type: none"> Applies textual information to determine regulatory requirements and adhere to job processes and internal policies
Writing	<ul style="list-style-type: none"> Uses appropriate language to record key information related to the outcomes of the job Varies writing style to meet requirements of audience and purpose
Oral Communication	<ul style="list-style-type: none"> Speaks clearly using tone and pace appropriate for the audience and purpose Uses appropriate techniques, including active listening and questioning, to clarify information and to confirm understanding
Initiative and enterprise	<ul style="list-style-type: none"> Takes personal responsibility for adherence to explicit and implicit organisational policies, procedures, standards and legislative requirements within own job role and in all interactions with others
Teamwork	<ul style="list-style-type: none"> Adjusts personal communication style in response to diversity of individuals in the work context Implements strategies to respond appropriately to conflict and poor work performance
Planning and organising	<ul style="list-style-type: none"> Takes responsibility for planning, sequencing and prioritising tasks for own workload

Technology	<ul style="list-style-type: none">• Uses familiar digital technologies and systems to access, present and communicate information
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Unit Mapping Information

Supersedes and is equivalent to BSBFLM303 Contribute to effective workplace relationships.

Supersedes but is not equivalent to BSBEDU302 Assist in resolution of issues and incidents in an international education environment.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBLDR301 Support effective workplace relationships

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- support the development of at least one team
- facilitate communication between individuals on at least two occasions.

In the course of the above, the candidate must:

- adjust interpersonal style and communications to respond to cultural and social diversity
- apply relationship management and communication skills with a range of people that:
 - demonstrate integrity, respect, empathy and cultural sensitivity and promote trust
 - forge effective relationships with internal and/or external people and help to maintain these networks
 - encourage participation and foster contribution of and respect for ideas and feedback
 - provide support to colleagues to resolve difficulties
- communicate ideas and information to diverse audiences.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- internal and external sources of information to improve organisational processes
- social and ethical requirements, and organisational policies and procedures relevant to communication
- legislative requirements relevant to communication
- strategies required to adapt communication for diverse audiences
- potential team issues including poor work performance
- examples of how work relationships and the cultural and social environment can support or hinder achieving planned outcomes
- techniques for developing positive work relationships and building trust and confidence in a team

- methods and techniques for communicating information and ideas to a range of stakeholders
- common problem-solving methods
- common methods to resolve workplace conflict
- process for monitoring, analysing and introducing ways to improve work relationships
- value of networks and work relationships for the team and the organisation
- own level of responsibility.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- workplace documentation and resources relevant to workplace relationships.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBLDR413 Lead effective workplace relationships

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Application

This unit describes the skills, knowledge and outcomes required to use leadership to promote team cohesion. It includes motivating, mentoring, coaching and developing the team and forming the bridge between the management of the organisation and team members.

The unit applies to team leaders, supervisors and new or emerging managers where leadership plays a role in developing and maintaining effective workplace relationships. It applies in any industry or community context. At this level work will normally be carried out within routine and non-routine methods and procedures, which require planning, evaluation, leadership and guidance of others.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Social Competence – Leadership

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to lead workplace relationships	1.1 Identify work team objectives according to organisational strategy 1.2 Collect and analyse information for the achievement of work task 1.3 Share ideas and information with relevant internal and external stakeholders according to work task 1.4 Develop strategy for completion of work task in collaboration with work team

ELEMENT	PERFORMANCE CRITERIA
2. Lead workplace relationships	2.1 Identify and implement methods to facilitate collaboration to complete work task 2.2 Support colleagues experiencing difficulties fulfilling work requirements 2.3 Manage conflict constructively within the organisation's processes and parameters of own role 2.4 Communicate work progress to relevant internal and external stakeholders
3. Review leadership	3.1 Seek feedback on relationship management for work task from relevant stakeholders 3.2 Analyse feedback on relationship management 3.3 Evaluate personal performance in leading workplace relationships 3.4 Identify areas of improvement for leading workplace relationships future work tasks

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

SKILL	DESCRIPTION
Reading	<ul style="list-style-type: none"> Collects, analyses and evaluates textual information from a range of resources to inform improvement strategies
Oral Communication	<ul style="list-style-type: none"> Selects or adjusts communication style to maintain effectiveness of interaction and build and maintain engagement consistent with organisational requirements
Initiative and enterprise	<ul style="list-style-type: none"> Identifies and follows legislative and organisational requirements relevant to own role
Teamwork	<ul style="list-style-type: none"> Selects and uses appropriate conventions and protocols when communicating with diverse stakeholders Adapts personal communication style to build trust and positive working relationships and to show respect for the opinions, values and particular needs of others Plays a lead role in situations requiring effective collaboration, demonstrating conflict resolution skills and ability to engage and motivate others
Planning and	<ul style="list-style-type: none"> Plans and implements activities and processes to manage and review work performance

organising	• Systematically gathers and analyses all relevant information to formulate and evaluate possible solutions to difficulties
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Unit Mapping Information

Supersedes and is equivalent to BSBLDR402 Lead effective workplace relationships.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBLDR413 Lead effective workplace relationships

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- lead effective workplace relationships on at least four occasions with different individuals or groups.

In the course of the above, the candidate must:

- access and analyse information required to achieve planned outcomes
- collaborate with work team to develop and implement a work task strategy
- apply techniques for resolving problems and conflicts, and dealing with poor performance according to organisational and legislative requirements
- monitor and communicate work progress to relevant internal and external stakeholders
- seek and review feedback to improve workplace leadership.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- considerations for communicating information including audience cultural and social diversity
- consultation processes including internal and external sources of consultees
- impacts of relationships, cultural and social environment, in supporting or hindering the achievement of planned outcomes
- techniques for developing positive work relationships and building trust and confidence in a team, including:
 - interpersonal styles
 - communications
 - consultation
 - cultural and social sensitivity
 - networking

- impact of legislation and organisational policies on workplace relationships
- techniques for communicating information and ideas to a range of stakeholders
- common methods to resolve workplace conflict
- common methods to manage poor work performance
- common methods to monitor, analyse and improve work relationships.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- legislation, regulations, standards and codes relevant to performance evidence
- workplace documentation and resources
- interaction with others.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBLDR414 Lead team effectiveness

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Application

This unit describes the skills, knowledge and outcomes required to lead the performance of a team and to develop team cohesion.

The unit applies team leaders, supervisors and new emerging managers who have an important leadership role in the development of efficient and effective work teams. Leaders at this level also provide leadership for the team and bridge the gap between the management of the organisation and the team members. As such they must 'manage up' as well as manage their team/s.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Social Competence – Leadership

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan team outcomes	1.1 Lead team to identify and establish team objectives and work processes 1.2 Support team to document identified objectives and work processes according to organisational processes 1.3 Encourage team members to incorporate innovation and productivity measures in work plans 1.4 Lead and support team members to meet expected outcomes
2. Promote team cohesion	2.1 Provide opportunities for input of team members into planning, decision making and operational aspects of work team

ELEMENT	PERFORMANCE CRITERIA
	2.2 Support team members to take responsibility for own work and to assist each other in undertaking required roles and responsibilities 2.3 Provide feedback to team members on their efforts and contributions 2.4 Address or refer issues, concerns and problems identified by team members 2.5 Model expected behaviours and approaches
3. Supervise team performance	3.1 Encourage team members to participate in and take responsibility for team activities and communication processes 3.2 Support team to identify and resolve problems which impede performance 3.3 Ensure own contribution to work team serves as a role model for others
4. Liaise with management	4.1 Establish open communication with line management 4.2 Communicate information from line management to the team 4.3 Communicate unresolved issues, concerns and problems raised by the team to line management to action 4.4 Communicate issues raised by management to the team to action

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

SKILL	DESCRIPTION
Writing	<ul style="list-style-type: none"> Prepares workplace plans that communicate intent and elicits feedback clearly and effectively
Oral communication	<ul style="list-style-type: none"> Engages in discussions or provides information using structure and language appropriate to the audience and situation
Teamwork	<ul style="list-style-type: none"> Selects and uses appropriate conventions and protocols when communicating with team members Adapts personal communication style to model required behaviours, build trust and positive working relationships and to show respect for the opinions and values of others Plays a lead role in situations requiring effective collaboration, demonstrating conflict resolution skills and ability to engage and motivate others

Planning and organising	<ul style="list-style-type: none">• Develops, implements and monitors plans and processes to ensure team engagement and effectiveness• Uses formal analytical thinking techniques to identify issues and generate possible solutions, seeking input from others, as required
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Unit Mapping Information

Supersedes and is equivalent to BSBLDR403 Lead team effectiveness.

Supersedes but is not equivalent to BSBSMB407 Manage a small team.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBLDR414 Lead team effectiveness

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- develop a team development plan, that addresses:
 - innovation and productivity measures
 - team cohesion
 - issues management and actions.

In the course of the above, the candidate must:

- apply knowledge of organisational goals, objectives and plans to work tasks
- communicate with team members and management to identify and establish team purpose, roles, responsibilities, goals plans and objectives and resolve problems
- consult, encourage, support and provide feedback to team members
- model team leadership behaviours and approaches.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- work processes, including team purpose, roles, responsibilities, goals and plans
- organisational escalation policies and procedures
- behaviours which enhance organisational image for work team, clients and customers
- processes for setting goals that contribute to team effectiveness
- effects of individual behaviour on team effectiveness
- innovation and productivity measures in work plans
- key features of common leadership styles.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- information about the organisation, including organisational structure, goals, objectives and plans.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBOPS202 Engage with customers

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to participate effectively in customer engagement, including complying with organisational requirements and using a variety of communication methods.

The unit applies to those who perform a range of mainly routine tasks, using limited practical skills and fundamental operational knowledge and who work under some supervision and guidance.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Business Competence – Business Operations

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Establish customer demands	1.1 Identify personal targets and key performance indicators (KPIs) for customer engagement according to organisational policy and procedures 1.2 Identify and confirm customer requirements 1.3 Identify options to meet customer expectations according to organisational policies and procedures 1.4 Adapt options to customer requirements according to organisational policies
2. Provide customer service	2.1 Select product or service in consultation with customer 2.2 Explain relevant information and actions to customer and

ELEMENT	PERFORMANCE CRITERIA
	confirm all details 2.3 Action customer orders and escalate queries that cannot be immediately satisfied according to organisational policies and procedures 2.4 Record details of engagement according to organisational policy
3. Finalise customer engagement	3.1 Supply follow-up information to customer according to organisational policies and procedures 3.2 Evaluate compliance with organisational policies and procedures 3.3 Seek customer feedback and identify opportunities to enhance service on future engagements 3.4 Record and report opportunities for continuous improvement

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

Skill	Description
Reading	<ul style="list-style-type: none"> Identifies and evaluates a range of texts to determine product information, performance standards and guidelines, and business requirements
Writing	<ul style="list-style-type: none"> Prepares clear and specific information which conveys an understanding of service requirements, outcomes and alternatives for customers and workplace personnel
Oral communication	<ul style="list-style-type: none"> Articulates clearly, using industry-specific language suitable to audience to convey requirements and listening and questioning techniques to confirm understanding
Enterprise and initiative	<ul style="list-style-type: none"> Identifies organisational expectations and follows explicit protocols and procedures, regulations and standards in performance of job role
Teamwork	<ul style="list-style-type: none"> Follows accepted communication practices and protocols in the provision of customer service Adjusts communication style in response to differences in customer profile, expectations and requirements
Planning and organising	<ul style="list-style-type: none"> Plans and implements routine customer service tasks and related workload, making limited decisions on sequencing and timing with support as required from relevant personnel Analyses task requirements to decide on appropriate customer service options

Skill	Description
	<ul style="list-style-type: none"> <li data-bbox="464 304 1342 371">Identifies difficulties that might present continuous improvement opportunities
Technology	<ul style="list-style-type: none"> <li data-bbox="464 385 1331 452">Identifies key features of common digital systems and tools and operates them effectively to manage customer communication

Unit Mapping Information

No equivalent unit. Supersedes but is not equivalent to:

- BSBCUE203 Conduct customer engagement
- BSBCUE205 Prepare for work in a customer engagement environment
- BSBCUE302 Deploy customer service field staff
- BSBCUE307 Work effectively in customer engagement.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBOPS202 Engage with customers

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- engage with at least three different customers, by:
 - providing customer service according to organisational standards and guidelines
 - using communication equipment and systems efficiently and effectively
 - adapting communication techniques to suit customer profile and requirements.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- operational environment, including customer base and products and services of the organisation
- organisational performance standards and customer service expectations
- organisational policies, procedures, protocols for customer engagement
- relevant product or service details
- equipment and systems to manage customer engagement
- customer service in different contexts and customer behaviour in different contexts
- sources of information to develop customer service skills including relevant organisational personnel
- follow-up considerations for customer queries, including:
 - engagement escalation policy
 - business rules and practices
 - customer expectations
- principles of customer service
- continuous improvement methods including customer retention strategies
- procedures for the operation of telecommunication equipment and systems, relevant to customer service.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- workplace information and data
- performance management records and data and quality assurance guidelines
- customer engagement policies and procedures.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBOPS304 Deliver and monitor a service to customers

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to identify customer needs, deliver and monitor customer service and identify improvements in the provision of customer service.

The unit applies to those who apply a broad range of competencies in various work contexts. In this role, individuals often exercise discretion and judgement using appropriate knowledge of customer service. They provide technical advice and support to customers over short or long-term interactions.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Business Competence – Business Operations

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Identify customer needs	1.1 Identify and clarify customer needs and expectations 1.2 Evaluate customer needs and determine priorities for service delivery according to organisational requirements 1.3 Inform customers about available choices for meeting their needs and assist selection of preferred options 1.4 Identify limitations in addressing customer needs and seek assistance from designated individuals, where required
2. Deliver a service to customers	2.1 Provide service to meet identified customer needs according to organisational and legislative requirements 2.2 Establish and maintain rapport with customers

ELEMENT	PERFORMANCE CRITERIA
	2.3 Manage customer complaints according to organisational and legislative requirements 2.4 Provide assistance and respond to customers with specific needs according to organisational and legislative requirements 2.5 Identify and use available opportunities to promote and enhance services and products to customers
3. Evaluate customer service delivery	3.1 Review customer satisfaction with service delivery using verifiable evidence according to organisational and legislative requirements 3.2 Seek and respond to customer feedback according to organisational policies and procedures 3.3 Identify opportunities to enhance the quality of customer service 3.4 Document recommendations for customer service improvements 3.5 Submit recommendations to relevant personnel according to organisational policies and procedures

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

Skill	Description
Learning	<ul style="list-style-type: none"> Identifies and follows up on opportunities to improve work practices and outcomes
Oral communication	<ul style="list-style-type: none"> Provides information or advice using structure and language to suit the audience Asks questions and listens to gain information or confirm understanding
Reading	<ul style="list-style-type: none"> Evaluates textual information to determine customer service requirements Proofreads texts for clarity of meaning and accuracy of grammar and punctuation
Writing	<ul style="list-style-type: none"> Completes responses to customer complaints in required format Prepares reports using sequencing, format and words to communicate recommendations clearly and effectively
Planning and organising	<ul style="list-style-type: none"> Complies with organisational policies and procedures relevant to role Plans and implements systems to gather and organise information

Skill	Description
Problem-solving	<ul style="list-style-type: none"> • Uses problem solving skills to analyse and respond to customer complaints or enquiries
Teamwork	<ul style="list-style-type: none"> • Selects and uses appropriate communication conventions to establish connections, build rapport, seek information and develop professional working relationships • Adjusts personal communication style in response to the opinions, values and particular needs of others

Unit Mapping Information

Supersedes and is equivalent to BSBCUS301 Deliver and monitor a service to customers.

Supersedes but is not equivalent to:

- BSBCUE309 Develop product and service knowledge for customer engagement operation
- BSBEDU303 Assist with the provision of international education information
- BSBINT303 Organise the importing and exporting of goods
- BSBINT304 Assist in the international transfer of services
- BSBSLS407 Identify and plan sales prospects.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBOPS304 Deliver and monitor a service to customers

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- deliver a service to at least three different customers, including:
 - using communication skills to establish rapport and build relationships with customers according to organisational requirements
 - identifying customer needs using appropriate questioning and active listening skills
 - providing customer service according to organisational requirements
 - responding to and recording customer feedback and action taken according to organisational standards, policies and procedures
 - producing a report which identifies and recommends ways to improve service delivery.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- key provisions of customer service legislation and consumer law
- organisational policies and procedures relating to customer service, including complaints handling
- common forms of verifiable evidence that could be used to review customer satisfaction
- customer service standards and protocols for serving customers, including customers with specific needs.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- technology required to gather and provide information and assistance to customers

- workplace documents, and organisational policies and procedures relating to customer service
- examples of customer complaints and feedback.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBOPS305 Process customer complaints

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Application

This unit describes skills and knowledge required to handle complaints from customers.

The unit applies to those who apply a broad range of competencies and may exercise discretion and judgement using appropriate knowledge of products, customer service systems and organisational policies to provide technical advice and support to a team.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Business Competence – Business Operations

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Receive complaints	1.1 Assess complaint according to organisational policy 1.2 Inform relevant stakeholders that complaint has been received 1.3 Document customer complaints according to organisational policies and procedures
2. Process complaints	2.1 Identify complaints requiring escalation according to organisational policy, and escalate as required 2.2 Identify additional information requirements to resolve complaints that do not require escalation 2.3 Prepare information for resolving complaint
3. Resolve complaints	3.1 Identify implications of complaint for customer and organisation

ELEMENT	PERFORMANCE CRITERIA
	3.2 Analyse options to resolve customer complaints according to legislation, organisational policies and codes of practice 3.3 Propose options according to legislative requirements and organisational policies 3.4 Escalate matters for which a solution cannot be determined to relevant personnel

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

Skill	Description
Reading	<ul style="list-style-type: none"> Identifies and interprets textual information to determine legislative, regulatory and organisational requirements
Writing	<ul style="list-style-type: none"> Documents complaints and actions taken according to organisational requirements Records spoken information clearly and accurately for future reference
Oral communication	<ul style="list-style-type: none"> Presents or requests information using words and non-verbal features appropriate to the audience and context Uses listening and questioning techniques to gather information and confirm understanding
Planning and organising	<ul style="list-style-type: none"> Takes responsibility for planning, sequencing and completing tasks to achieve required outcomes Follows organisational communication practices and procedures when referring complaints, seeking advice or negotiating outcomes
Problem-solving	<ul style="list-style-type: none"> Addresses less predictable problems applying problem solving processes in determining solutions that meet organisational requirements
Technology	<ul style="list-style-type: none"> Uses the main features and functions of digital tools to complete work tasks

Unit Mapping Information

Supersedes and is equivalent to BSBCMM301 Process customer complaints.

Supersedes but is not equivalent to:

- BSBCUE304 Provide sales solutions to customers

- BSBCUE308 Conduct outbound customer engagement.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBOPS305 Process customer complaints

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- process at least three customer complaints relating to business operations.

In the course of the above, the candidate must:

- follow organisational procedures when referring and resolving complaints.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- key provisions of legislation relating to customers including Australian Consumer Law and consumer guarantees
- communication techniques for handling customer complaints
- organisational policies, procedures and standards for processing complaints
- organisational escalation procedures and relevant personnel.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- organisational policies and procedures relevant to customer complaints
- legislation and codes of practice relevant to customer complaints.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBOPS402 Coordinate business operational plans

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to implement operational plans by planning and acquiring resources, monitoring and adjusting operational performance and providing reports on performance, as required.

The unit applies to individuals who plan activities to achieve team and organisational objectives. At this level, work will normally be carried out within routine and non-routine methods and involve procedures that require planning, evaluation, leadership and guidance of others.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Business Competence – Business Operations

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to implement operational plan	1.1 Consult with stakeholders to identify resource requirements relevant to operational plan 1.2 Collate, analyse and document details of resource requirements 1.3 Develop operational plan and determine implementation method 1.4 Plan for contingencies 1.5 Develop and present proposals for resource requirements
2. Implement operational plan	2.1 Assist in recruiting and onboarding employees required to implement operational plan according to organisational policies

ELEMENT	PERFORMANCE CRITERIA
	<p>and procedures</p> <p>2.2 Acquire physical resources and services according to organisational policies and procedures</p> <p>2.3 Support efficient, cost-effective and safe use of resources</p> <p>2.4 Adjust implementation of the operational plan in consultation with others to manage contingencies</p>
3. Monitor operational performance	<p>3.1 Collate relevant information and determine operational and productivity performance</p> <p>3.2 Identify and use key performance indicators (KPIs) and assess operational performance</p> <p>3.3 Identify unsatisfactory performance and take action to rectify the situation according to organisational policies</p>
4. Review operations based on performance	<p>4.1 Develop recommendations for variation to operational plans</p> <p>4.2 Present recommendations to the designated persons or groups to gain approval</p> <p>4.3 Maintain records related to operational performance according to organisational policies and procedures</p> <p>4.4 Report information on operational performance to management</p>

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

Skill	Description
Reading	<ul style="list-style-type: none"> Identifies, interprets, analyses and reviews textual information related to the operational plan and monitoring of operational performance
Writing	<ul style="list-style-type: none"> Communicates relationships between ideas and information, matching style of writing to purpose and audience Researches, plans and prepares workplace documentation for relevant stakeholders using organisational formats
Oral communication	<ul style="list-style-type: none"> Participates in a variety of spoken exchanges with a range of audiences varying structure and language to suit the audience
Numeracy	<ul style="list-style-type: none"> Selects and uses familiar mathematical techniques to organise timely supply of adequate resources for the operational plan and to use budgetary information to monitor performance
Enterprise and initiative	<ul style="list-style-type: none"> Monitors adherence to organisational policies and procedures and considers own role in terms of its contribution to broader goals of the work environment

Skill	Description
Teamwork	<ul style="list-style-type: none"> • Selects and uses appropriate conventions and protocols when communicating with diverse individuals to build rapport, seek or present information • Collaborates with others to achieve joint outcomes, playing an active role in facilitating effective group communication, influencing direction and taking a leadership role on occasion
Planning and organising	<ul style="list-style-type: none"> • Takes responsibility for planning, organising, implementing and monitoring tasks required to achieve required outcomes • Evaluates effectiveness of decisions in terms of how well they met stated goals • Identifies and addresses an increasing range of familiar problems by implementing contingency plans

Unit Mapping Information

No equivalent unit. Supersedes but is not equivalent to:

- BSBFLM305 Support operational plan
- BSBMGT402 Implement operational plan.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBOPS402 Coordinate business operational plans

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- prepare, implement and review two operational plans.

In the course of the above, the candidate must:

- interact with a range of people and groups to identify resource requirements, performance objectives, systems, procedures and records relating to the operational plan
- plan and acquire physical and human resources using organisation's systems and procedures
- manage and support personnel to achieve performance objectives including facilitating new employee onboarding
- present information and recommendations to support implementation and variation of the operational plan
- monitor operational performance against the performance objectives and budgets and implement improvements to rectify unsatisfactory performance
- vary the operational plan and gain approval to deal with contingencies
- document and provide reports on performance as required by the organisation.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- processes to identify resource requirements
- sources of information to identify resource requirements
- methods to manage contingencies including through consultation with relevant stakeholders
- key features of performance monitoring systems and processes
- common methods for problem solving
- methods to support staff including mentoring, coaching and supervision

- implementation methods for operational plan
- budget and other financial information related to the organisation
- organisational objectives including costs, identified shortfalls and surpluses.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- organisational operational plans, policies and procedures relevant to performance evidence
- workplace documentation and resources including budgets
- physical and human resource procurement documentation
- employee onboarding and performance monitoring procedures.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBOPS403 Apply business risk management processes

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to identify business risks and to apply established risk management processes to a defined area of operations that are within the responsibilities and obligations of the work role.

The unit applies to individuals with a broad knowledge of risk analysis or project management who contribute well developed skills in creating solutions to unpredictable problems through analysis and evaluation of information from a variety of sources. They may have responsibility to provide guidance or delegate aspects of these tasks to others. Risks applicable to own work responsibilities and area of operation may include projects being undertaken individually or by a team, or operations within a section of the organisation.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Business Competence – Business Operations

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Identify risks	1.1 Identify context for risk management 1.2 Undertake required steps to identify risks 1.3 Document identified risks according to relevant policies, procedures, legislation and standards
2. Analyse and evaluate risks	2.1 Analyse risks in consultation with relevant stakeholders 2.2 Undertake risk categorisation and determine level of risk 2.3 Document analysis processes and outcomes

ELEMENT	PERFORMANCE CRITERIA
3. Treat risks	3.1 Identify control measures for risks 3.2 Assess strengths and weaknesses of control measures 3.3 Refer risks to relevant personnel, where required, according to policies and procedures 3.4 Select and implement control measures for personal area of operation and responsibilities
4. Monitor and review effectiveness of risk treatments	4.1 Review implemented treatments against measures of success 4.2 Use review results to improve the treatment of risks 4.3 Monitor and review management of risk in personal area of operation

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

Skill	Description
Learning	<ul style="list-style-type: none"> • Uses analysis and consultative processes to inform decisions about selection and implementation of risk control measures • Evaluates effectiveness of plans and results to inform improvement decisions
Reading	<ul style="list-style-type: none"> • Comprehends documents and texts of varying complexity to extract and analyse relevant information
Writing	<ul style="list-style-type: none"> • Uses specific, industry related terminology and logical organisational structure in workplace documents that identify and analyse risk and report management process outcomes
Oral communication	<ul style="list-style-type: none"> • Participates effectively in interactions with stakeholders by using questioning and listening to elicit opinions and clarify understanding
Numeracy	<ul style="list-style-type: none"> • Uses numerical tools to assess risk and uses numerical data to review plans
Enterprise and initiative	<ul style="list-style-type: none"> • Complies with organisational and legislative requirements • Takes responsibility for identification and management of risk within own work context and refers matters to others as required
Teamwork	<ul style="list-style-type: none"> • Selects appropriate communication protocols and conventions when conferring with others to establish risk management requirements
Planning and organising	<ul style="list-style-type: none"> • Determines job sequence and works logically and systematically to undertake defined tasks

Skill	Description
Technology	<ul style="list-style-type: none">• Uses familiar digital technologies and systems to access information, prepare plans and communicate with others

Unit Mapping Information

Supersedes and is equivalent to BSBRSK401 Identify risk and apply risk management processes.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBOPS403 Apply business risk management processes

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to apply organisational policies, procedures and processes to:

- treat at least three risks by:
 - identifying different types of organisational risks
 - consulting with stakeholders to analyse and evaluate risks
 - implementing control measures
 - referring risks that are beyond own area of responsibility to others
 - maintaining risk management documentation.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- legislative and regulatory context of the organisation in relation to risk management
- techniques for identifying and evaluating risks
- organisational policies and procedures for risk management
- areas where risks are commonly identified in an organisation
- risks beyond scope of individual responsibility to be referred to relevant organisational personnel
- purpose and key elements of current risk management standards.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- legislation, regulations, standards and codes relating to business risk

- workplace documentation on selected organisational risks.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBOPS404 Implement customer service strategies

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to advise, carry out and evaluate customer service strategies.

The unit applies to individuals who have well developed skills and a broad knowledge of customer service strategies for addressing customer needs and problems. Individuals may provide guidance or delegate work related tasks to others.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Business Competence – Business Operations

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Advise on customer service needs	1.1 Identify organisational customer service objectives and customer needs 1.2 Assess and clarify customer requirements 1.3 Identify and diagnose problems with service delivery 1.4 Develop options to improve customer service delivery according to organisational requirements 1.5 Provide recommendations to promote improvement of customer service delivery
2. Support implementation of customer service	2.1 Consult with relevant stakeholders to develop customer service strategies 2.2 Assess customer service strategies and opportunities against

ELEMENT	PERFORMANCE CRITERIA
strategies	customer service objectives 2.3 Identify and allocate available budget resources to fulfil customer service objectives 2.4 Action procedures to resolve customer difficulties and complaints according to organisational requirements
3. Evaluate and report on customer service	3.1 Review stakeholder satisfaction with service delivery according to organisational requirements 3.2 Identify and report changes necessary to meet customer service objectives 3.3 Prepare conclusions and recommendations on future directions of client service strategies 3.4 Monitor systems, records and reporting procedures for changes to customer satisfaction

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

Skill	Description
Reading	<ul style="list-style-type: none"> Reviews textual information and comprehends details that relate to the interests or requirements of the client and organisation
Writing	<ul style="list-style-type: none"> Creates a range of formal texts using structure, grammar and clear and specialised language to describe customer needs, maintain information and support a particular position
Oral communication	<ul style="list-style-type: none"> Uses pace, intonation, intelligible pronunciation and listening and questioning techniques to interact effectively with others
Numeracy	<ul style="list-style-type: none"> Recognises and interprets numerical information and performs calculations on familiar mathematical information
Enterprise and Initiative	<ul style="list-style-type: none"> Recognises and applies organisational protocols and meets expectations associated with own work
Teamwork	<ul style="list-style-type: none"> Uses a range of strategies to establish a sense of connection and build rapport with customers Collaborates with others contributing knowledge and skills to achieve joint outcomes
Planning and organising	<ul style="list-style-type: none"> Applies formal and logical processes when planning and implementing tasks Applies standard procedures when responding to familiar problems

Skill	Description
	within own work context
Technology	<ul style="list-style-type: none"> • Uses digital technologies to access, organise, present and store information relevant to own role

Unit Mapping Information

Supersedes and is equivalent to BSBCUS401 Coordinate implementation of customer service strategies.

Supersedes but is not equivalent to:

- BSBCUS402 Address customer needs
- BSBCUS403 Implement customer service standards
- BSBSLS408 Present, secure and support sales solutions.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBOPS404 Implement customer service strategies

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- develop and implement at least two strategies to improve customer service delivery.

In the course of the above, the candidate must:

- respond to and report on customer feedback and complaints
- review client satisfaction using verifiable data
- consult and communicate effectively with relevant people
- develop and implement strategies and methods to improve customer service delivery, including:
 - budgeting
 - promotion to staff
 - documentation and follow up.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- customer communication techniques
- principles of customer service
- sources of verified client information
- techniques for identifying customer needs and reviewing customer satisfaction
- organisational business structure, products and services related to customer service
- techniques for drawing insights from verifiable evidence to develop recommendations and conclusions
- product and service standards and best practice models.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- organisational policies and procedures for customer service
- examples of customer complaints and feedback
- client satisfaction data.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBPEF202 Plan and apply time management

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to implement time management processes to organise and complete work tasks. It also addresses skills and knowledge to seek and review feedback for performance improvement regarding time management and use technology appropriate to the task.

The unit applies to individuals working under direct supervision. These individuals apply basic skills and knowledge in a broad range of work settings.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Critical Thinking & Problem Solving – Personal Effectiveness

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Organise work schedule	1.1 Discuss and agree on work goals and plans with assistance from relevant personnel 1.2 Identify relationship between own work goals and plans, and organisational goals and plans 1.3 Research time management techniques and strategies 1.4 Plan and prioritise work tasks within allocated timeframes
2. Complete work tasks	2.1 Perform tasks according to designated timelines and instructions 2.2 Seek assistance from colleagues when difficulties arise in achieving allocated tasks

ELEMENT	PERFORMANCE CRITERIA
	2.3 Identify factors affecting work plan 2.4 Communicate progress on work plan to relevant personnel according to organisational policies and procedures
3. Review work performance	3.1 Seek feedback on time management from relevant personnel 3.2 Record changes to time management approach according to task instructions 3.3 Identify and plan opportunities for improvement in discussion with colleagues

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Identifies and interprets textual information to determine and adhere to organisational and task requirements
Writing	<ul style="list-style-type: none"> Completes required documents using organisational formats
Oral communication	<ul style="list-style-type: none"> Uses listening and questioning techniques to seek information and confirm understanding Participates in verbal interactions using language and features suitable to audience and context
Numeracy	<ul style="list-style-type: none"> Interprets numerical information related to timeframes
Enterprise and initiative	<ul style="list-style-type: none"> Complies with organisational policies, procedures and standards
Planning and organising	<ul style="list-style-type: none"> Prioritises work and completes activities within designated timeframes Identifies and solves routine problems
Technology	<ul style="list-style-type: none"> Selects and uses appropriate digital tools to complete tasks

Unit Mapping Information

Supersedes and is equivalent to BSBWOR202 Organise and complete daily work activities.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBPEF202 Plan and apply time management

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- develop and implement at least one time management plan with support of relevant personnel.

In the course of the above, the candidate must:

- complete each work task within specified timeframe, seeking opportunities to use digital tools where applicable
- seek and use feedback from others to monitor and improve work performance.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- time management techniques and strategies
- features of a time management plan
- organisational standards, policies and procedures relevant to own work role
- relationship between own work goals and plans and organisation's goals and plans
- factors affecting work progress and performance improvement techniques.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to challenges and situations to demonstrate application of performance evidence.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBPEF301 Organise personal work priorities

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.
Release 2	This version first released with BSB Business Services Training Package Version 7.2. Release created to amend typographical error in the foundation skills.

Application

This unit describes the skills and knowledge required to organise personal work schedules, to monitor and obtain feedback on work performance and to maintain required levels of competence.

The unit applies to individuals who exercise discretion and judgement and apply a broad range of competencies in various work contexts.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.

Unit Sector

Critical Thinking & Problem Solving – Personal Effectiveness

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Organise and complete own work schedule	1.1 Develop work goals and key performance indicators (KPIs) according to task and organisational requirements 1.2 Prioritise workload according to task timeframes 1.3 Identify factors affecting achievement of work objectives 1.4 Develop personal work plans
2. Evaluate own work	2.1 Identify variations between expected and actual work

ELEMENT	PERFORMANCE CRITERIA
performance	<p>performance according to task requirements and KPIs</p> <p>2.2 Report variations to relevant personnel</p> <p>2.3 Seek feedback from relevant personnel for solutions to minimise variations in expected and actual work outputs</p> <p>2.4 Research sources of stress and access appropriate supports according to organisational policies and procedures</p>
3. Coordinate personal skill development and learning	<p>3.1 Identify personal and professional development needs for job role</p> <p>3.2 Identify opportunities to undertake personal skill development activities in consultation with supervisor</p> <p>3.3 Access professional development opportunities</p> <p>3.4 Record professional development undertaken for continuous learning and career development process</p> <p>3.5 Incorporate feedback into review of further learning needs</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

Skill	Description
Learning	<ul style="list-style-type: none"> Employs a range of approaches and investigative techniques to source the knowledge necessary to arrange personal learning experiences
Reading	<ul style="list-style-type: none"> Interprets textual information to determine organisation's procedures, own work performance and objectives
Writing	<ul style="list-style-type: none"> Prepares written reports and workplace documents that communicate information clearly and effectively
Oral communication	<ul style="list-style-type: none"> Provides and receives feedback using specific and relevant language Uses listening and questioning techniques to confirm understanding
Self-management	<ul style="list-style-type: none"> Complies with organisational policies, procedures and protocols
Teamwork	<ul style="list-style-type: none"> Selects the appropriate form, channel and mode of communication for a specific purpose relevant to own role Proactively collaborates with others to achieve specific goals
Planning and organising	<ul style="list-style-type: none"> Plans and organises work commitments to ensure deadlines and objectives are met Uses formal analytical thinking techniques to recognise and respond to routine problems

Skill	Description
Technology	<ul style="list-style-type: none"><li data-bbox="464 309 1406 342">• Uses digital systems and tools to enter, store and monitor information

Unit Mapping Information

Supersedes and is equivalent to BSBWOR301 Organise personal work priorities and development.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBPEF301 Organise personal work priorities

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.
Release 2	This version first released with BSB Business Services Training Package Version 7.2. Release created to amend typographical error in the foundation skills.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- prepare and implement a personal work plan.

In the course of the above, the candidate must:

- prepare a work plan according to organisational requirements and work objectives
- use technology to schedule, prioritise and monitor completion of tasks in a work plan
- assess and prioritise own work tasks and address contingencies
- monitor and assess personal performance against job role requirements by seeking feedback from relevant personnel
- identify personal development needs and access, complete and record skill development and learning.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- organisational policies and procedures relevant to work tasks
- goals, objectives and key performance indicators for task within scope of job role
- methods to elicit, analyse and interpret feedback when communicating with other people in the workplace
- content of work plans including:
 - timeframes
 - tasks requirements

- risks
- contingencies for identified risks
- types of personal learning and professional development requirements
- principles and techniques of goal setting, measuring performance and time management
- signs and sources of stress and strategies to deal with stress in the workplace
- methods to identify and prioritise personal learning needs.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- challenges and situations to demonstrate application of performance evidence.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBPEF402 Develop personal work priorities

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to plan and prioritise own work tasks. It also addresses the skills and knowledge to monitor and obtain feedback on personal work performance.

The unit applies to individuals who are required to design their own work schedules and work plans and to establish priorities for their work. They will typically hold some responsibilities for the work of others and have some autonomy in relation to their own role.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.

Unit Sector

Critical Thinking & Problem Solving – Personal Effectiveness

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan personal work schedule	1.1 Identify task requirements 1.2 Identify own accountabilities in line with task requirements 1.3 Assess barriers for performance of personal accountabilities 1.4 Develop a personal work schedule
2. Implement personal work schedule	2.1 Communicate personal work schedule to relevant personnel 2.2 Monitor own performance according to personal work schedule 2.3 Document variations between expected and actual work performance according to task requirements and communicate to relevant personnel

ELEMENT	PERFORMANCE CRITERIA
3. Review personal work priorities	3.1 Seek and evaluate feedback from relevant stakeholders on own work performance 3.2 Analyse variations between expected and actual work performance 3.3 Update personal work schedule according to internal and external feedback and changes in circumstances

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

Skill	Description
Learning	<ul style="list-style-type: none"> Develops strategies to reflect on own performance and obtain feedback
Reading	<ul style="list-style-type: none"> Identifies and applies textual information from relevant sources to understand organisation's policies and practices
Writing	<ul style="list-style-type: none"> Prepares written reports and workplace documentation that communicate complex information clearly and effectively
Numeracy	<ul style="list-style-type: none"> Analyses numerical information related work accountabilities
Enterprise and initiative	<ul style="list-style-type: none"> Identifies and understands roles and responsibilities in relation to organisational objectives, policies and procedures
Planning and organising	<ul style="list-style-type: none"> Plans, organises and implements tasks to meet organisational requirements Uses the main features and functions of digital technologies and tools to complete work tasks efficiently and effectively

Unit Mapping Information

Supersedes and is equivalent to BSBWOR404 Develop work priorities.

Supersedes but is not equivalent to:

- BSBSMB408 Manage personal, family, cultural and business obligations
- BSBWOR424 Develop a time management plan.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBPEF402 Develop personal work priorities

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- develop, implement and review one personal work schedule.

In the course of the above, the candidate must:

- identify personal responsibilities and barriers to their fulfilment according to task requirements
- prepare a personal work schedule
- communicate work schedule to relevant personnel
- monitor personal work performance to identify variations between expected and actual work performance
- review own work performance against workgroup objectives through self-assessment and seeking and acting on feedback from internal and external stakeholders.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- content of work plans including:
 - resource requirements
 - stakeholder needs
 - workgroup targets
- business technology applications to schedule tasks and plan work
- methods of personal work performance review including:
 - self-assessment
 - feedback from others
- techniques to prepare personal plans and establish priorities
- methods to elicit, analyse and interpret feedback.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to challenges and situations to demonstrate the application of performance evidence.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBPMG427 Apply project procurement procedures

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to assist with procurement for a project. It involves identifying procurement requirements, assisting with supplier selection, conducting procurement activities, and assisting with procurement finalisation activities for the project.

The unit applies to individuals who are project practitioners working in a project support role.

The project assistant may be part of a project team under the direction of a project manager, or may work as part of a smaller scale, self-directed team.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Unit Sector

Business Competence – Project Management

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Assist with procurement planning	1.1 Contribute to establishing procurement requirements according to project objectives 1.2 Contribute to developing procurement-management plan and documentation
2. Contribute to supplier selection process	2.1 Gather and evaluate information on potential suppliers 2.2 Make recommendations and assist in selection of preferred suppliers 2.3 Contribute to establishing agreed terms and conditions with

ELEMENT	PERFORMANCE CRITERIA
	<p>preferred suppliers</p> <p>2.4 Assist relevant personnel in establishing and checking relevant stakeholders perform agreed terms</p> <p>2.5 Assist in developing contractual documentation</p>
3. Conduct procurement activities	<p>3.1 Test and accept supplies and confirm fit for purpose in both quality and suitability</p> <p>3.2 Undertake procurement activities and maintain information according to reporting, confidentiality and audit requirements</p> <p>3.3 Receive, reconcile and register supplies according to established procedures</p> <p>3.4 Monitor and control suppliers and contractual supply documentation</p>
4. Assist in finalising procurement activities	<p>4.1 Assist in finalising procurement activities</p> <p>4.2 Assist in review of project outcomes using available records to determine effectiveness of procurement activities</p> <p>4.3 Contribute to making changes to project procurement procedures based on feedback received</p>

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

SKILL	DESCRIPTION
Reading	<ul style="list-style-type: none"> Applies appropriate strategies to construct meaning from a variety of texts
Writing	<ul style="list-style-type: none"> Contributes to developing project documents using vocabulary and structure appropriate to audience, context and purpose Completes project documentation using required formats and structure
Oral Communication	<ul style="list-style-type: none"> Participates in verbal exchanges using clear language and appropriate non-verbal features to provide and seek information Uses questioning and listening skills to check and confirm understanding
Numeracy	<ul style="list-style-type: none"> Uses basic mathematical formula to calculate whole numbers and decimals to confirm financial accounts match purchased items
Initiative and enterprise	<ul style="list-style-type: none"> Understands responsibilities and boundaries associated with own role Adheres to organisational policies and procedures when planning and undertaking work
Teamwork	<ul style="list-style-type: none"> Uses accepted communication practices and protocols to share or

SKILL	DESCRIPTION
	provide information <ul style="list-style-type: none">• Collaborates with others to achieve project outcomes
Planning and organising	<ul style="list-style-type: none">• Plans, organises and implements tasks required to achieve outcomes according to organisational requirements• Reflects on outcomes to gain insights into future improvements

Unit Mapping Information

Supersedes and is equivalent to BSBPMG416 Apply project procurement procedures.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBPMG427 Apply project procurement procedures

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- assist application of project procurement processes during at least two different projects.

In the course of the above, the candidate must:

- document procurement requirements for a workplace project, including clear descriptions of product and service, quality specifications, resource identification, supply and delivery requirements and supply and engagement metrics
- apply procurement-management procedures to a workplace project, including selection criteria, testing and accepting, monitoring and receiving supplies
- finalise procurement agreements.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- procurement-management policy, processes and procedures
- procurement documentation requirements
- components of contractual documentation and the legal obligations of all parties
- process used to select preferred contractors
- project procurement-management tools and techniques.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- examples of project procurement documentation
- examples of procurement tasks and activities

- workplace documentation and resources relevant to performance evidence.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBPMG634 Facilitate stakeholder engagement

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to facilitate stakeholder engagement in a program. It includes working with stakeholders through effective communication to achieve desired program benefits.

The unit applies to individuals who are program managers and those managing a suite of projects (a program). They operate within assigned authority levels, are responsible for their own performance, program outcomes, and sometimes the performance of others.

Individuals in this role may be operating within an organisation, a business or working as a consultant.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Business Competence – Project Management

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Communicate with stakeholders	1.1 Identify and document program stakeholders and their communication needs as they apply to the given program of work 1.2 Engage with pertinent stakeholders and agree on communication approaches in accordance with organisational policies and procedures 1.3 Communicate information as planned and address identified variances

ELEMENT	PERFORMANCE CRITERIA
	1.4 Monitor communication interfaces among constituent projects, and align to relevant program objectives
2. Undertake stakeholder commitment	<p>2.1 Investigate and document interests and expectations of key stakeholders for making program decisions</p> <p>2.2 Develop and implement approaches to influence ongoing stakeholder commitment according to organisational policies and procedures</p> <p>2.3 Share evolving stakeholder interests and expectations across the program</p>
3. Assess effectiveness of stakeholder engagement	<p>3.1 Conduct analysis of interactions with key stakeholders and document outcomes to reach desired outcomes</p> <p>3.2 Assess effectiveness of stakeholder interaction according to program objectives and organisational policies and procedures</p> <p>3.3 Develop plan for future stakeholder engagement based on findings of analysis conducted</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

SKILL	DESCRIPTION
Reading	<ul style="list-style-type: none"> Organises, evaluates and critiques ideas and information from complex texts
Writing	<ul style="list-style-type: none"> Develops a range of project related documents using appropriate format, vocabulary and structure
Oral Communication	<ul style="list-style-type: none"> Participates in a range of verbal exchanges using language and features appropriate to audience Uses active listening and questioning techniques to confirm understanding
Teamwork	<ul style="list-style-type: none"> Identifies the importance of taking audience, purpose and contextual factors into account when making decisions about what to communicate, with whom, why and how Builds and maintains effective working relationships within and beyond immediate work context Identifies, creates and utilises linkages to enhance knowledge sharing and commitment
Planning and organising	<ul style="list-style-type: none"> Develops flexible plans for complex, high impact activities with strategic implications that involve a diverse range of stakeholders with potentially competing demands

SKILL	DESCRIPTION
	<ul style="list-style-type: none"><li data-bbox="456 309 1315 376">Identifies issues and uses analytical techniques to generate and evaluate possible solutions and to make decisions

Unit Mapping Information

Supersedes and is equivalent to BSBPMG621 Facilitate stakeholder engagement.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBPMG634 Facilitate stakeholder engagement

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- facilitate stakeholder engagement on at least one occasion.

In the course of the above, the candidate must:

- provide examples of internal and external stakeholder communications, both formal and informal used in the workplace
- use different communication approaches in different stakeholder contexts
- conduct and document an introspective assessment of stakeholder effectiveness and develop a plan for future stakeholder interactions.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- features of engagement models, benefits and applications
- forms and methods of stakeholder engagement
- features of several means, media and methods of communication
- features of various types and roles of program stakeholders
- features of relevant organisation policies and procedures
- program and organisational objectives.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- access to examples of program stakeholder engagement processes and interaction

- feedback from stakeholders, which reflects how stakeholder engagement was managed for a program.

Assessors must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBSTR402 Implement continuous improvement

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to implement continuous improvement of systems and processes of an organisation. It includes using systems and strategies to encourage the team to participate in the process, monitoring and reviewing performance, and identifying opportunities for further improvements.

The unit applies to managers who are responsible for implementing the continuous improvement process to achieve the objectives of the organisation.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Critical Thinking and Problem Solving – Business Strategy

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Identify and plan for improvement	1.1 Identify relevant stakeholders and establish improvements required 1.2 Identify where new systems and processes could be implemented 1.3 Promote team involvement in decision making processes for team systems and processes 1.4 Communicate and agree on new improvement systems and processes with relevant stakeholders 1.5 Manage reports and recommendations for using systems and processes of the organisation

ELEMENT	PERFORMANCE CRITERIA
	1.6 Establish risk review processes
2. Monitor implementation of continuous improvement	<p>2.1 Use workplace systems and technology, and monitor team performance according to organisational policies and procedures</p> <p>2.2 Implement new systems and processes in consultation with relevant stakeholders</p> <p>2.3 Maintain new system and processes in consultation with relevant stakeholders</p> <p>2.4 Identify and resolve system and process issues</p>
3. Evaluate implementation of continuous improvement	<p>3.1 Communicate productivity improvements to relevant stakeholders and confirm their understanding</p> <p>3.2 Seek and respond to feedback from relevant stakeholders on proposed improvement systems and process</p> <p>3.3 Review improvement systems and process, and make changes, as required</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

SKILL	DESCRIPTION
Reading	<ul style="list-style-type: none"> Evaluates and integrates facts and ideas to construct meaning from a range of text types in order to implement continuous improvement systems and processes
Writing	<ul style="list-style-type: none"> Selects vocabulary, grammatical structures and conventions appropriate to text Researches, plans and prepares continuous improvement documentation for required stakeholders
Oral communication	<ul style="list-style-type: none"> Participates in a variety of spoken exchanges with a range of audiences using structure and language to suit the audience
Initiative and enterprise	<ul style="list-style-type: none"> Monitors adherence to organisational policies and procedures and considers own role in terms of its contribution to broader goals of the work environment Recognises the potential of new approaches to enhance work practices and outcomes Uses systematic, analytical processes in complex, non-routine situations, setting goals, gathering required information and identifying and evaluating options against agreed criteria

SKILL	DESCRIPTION
Teamwork	<ul style="list-style-type: none"> • Selects and uses required conventions and protocols when communicating with diverse individuals to seek and share information • Collaborates with others to achieve joint outcomes, playing an active role in facilitating effective group communication, influencing direction and taking a leadership role on occasion
Self-management	<ul style="list-style-type: none"> • Evaluates effectiveness of decisions in terms of how well they meet stated goals
Technology	<ul style="list-style-type: none"> • Uses digital applications to access and filter data, extract, organise, integrate and share required information
Planning and organising	<ul style="list-style-type: none"> • Takes responsibility for planning and organising own workload to achieve required outcomes

Unit Mapping Information

Supersedes and is equivalent to BSBMGT403 Implement continuous improvement.

Supersedes but is not equivalent to:

- BSBCON401 Work effectively in a business continuity context
- BSBMGT406 Plan and monitor continuous improvement.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBSTR402 Implement continuous improvement

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- implement at least one continuous improvement system or process in an organisation or work area.

In the course of the above, the candidate must:

- provide support to enable individuals and teams to participate in decisions, take responsibility, show initiative and implement improvement processes
- communicate effectively to support the implementation of improvements and improvement system and processes
- implement, monitor and update improvement plans, processes and procedures to improve performance
- document performance to identify further opportunities for improvement
- manage records and reports in the systems and procedures of the organisation.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- continuous improvement systems and processes
- coaching and mentoring needs to support continuous improvement
- change management techniques that support continuous improvement and initiative
- organisation's systems and data used for benchmarking and monitoring performance for continuous improvement.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- workplace documentation and resources relevant to performance evidence.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBTEC201 Use business software applications

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to select and use software and organise electronic information and data.

The unit applies to those who use a limited range of practical skills with a fundamental knowledge of equipment use and the organisation of data in a defined context, under direct supervision or with limited individual responsibility.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.

Unit Sector

Digital Competence - Technology Use

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Select and prepare to use technology	1.1 Identify task purpose, audience, format and presentation requirements, and clarify with relevant personnel, where required 1.2 Select relevant technology and software applications to achieve requirements of the task 1.3 Adjust workspace, furniture and equipment to suit own ergonomic requirements
2. Input and process information or data	2.1 Identify and open application, according to task and organisational requirements 2.2 Enter information or data into application according to organisational requirements

ELEMENT	PERFORMANCE CRITERIA
	2.3 Ensure information or data is checked and amended according to organisational and task requirements 2.4 Format information or data using appropriate application functions according to organisational and task requirements 2.5 Use relevant help functions to overcome simple issues
3. Finalise and store document	3.1 Review and edit final information or data, and prepare for storage in accordance with organisational and task requirements 3.2 Name and store document and exit application

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

SKILL	DESCRIPTION
Reading	<ul style="list-style-type: none"> Recognises and interprets information from familiar sources to determine job role and task requirements
Writing	<ul style="list-style-type: none"> Produces and amends files to meet task and organisational requirements Completes required documentation using organisational formats

Unit Mapping Information

Supersedes and is equivalent to:

- BSBITU211 Produce digital text documents
- BSBITU212 Create and use spreadsheets
- BSBWOR204 Use business technology.

Supersedes but is not equivalent to BSBCUE301 Use multiple information systems.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBTEC201 Use business software applications

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- select and use at least three business software applications on two occasions each.

In the course of the above, the candidate must:

- select and use technology safely and according to organisational requirements
- identify and address faults according to requirements.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- key features of:
 - organisation's work health and safety requirements relevant to own role
 - organisation's requirements for file naming and storage
 - applications used for organising electronic information and data.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- workplace equipment and resources
- electronic files, information and data
- workplace documentation.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBTWK201 Work effectively with others

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to work cooperatively with others and deal effectively with issues, problems and conflict.

The unit applies to individuals who perform a range of routine tasks in a team environment and use a basic knowledge of teamwork in a defined context, under direct supervision or with limited individual responsibility.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.

Unit Sector

Social Competence – Teamwork and Relationships

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Develop effective workplace relationships	1.1 Identify individual responsibilities in relation to workgroup members 1.2 Clarify individual and workgroup responsibilities with work team 1.3 Participate in informal meetings and information sharing with workgroup 1.4 Request and apply feedback from supervisor on individual practices
2. Improve workgroup processes	2.1 Support team members to meet workgroup goals 2.2 Contribute to workgroup goals and tasks according to organisational requirements

ELEMENT	PERFORMANCE CRITERIA
	2.3 Share work-related information with workgroup according to organisational policies and procedures 2.4 Plan strategies for team performance improvement with workgroup
3. Resolve issues, problems and conflict	3.1 Identify advantages of differences in values and beliefs between workgroup members 3.2 Respond to any linguistic and cultural differences in communication styles according to legislation, organisational policies and procedures and ethical standards 3.3 Identify potential workgroup issues, problems and conflicts encountered in the workplace 3.4 Seek assistance from supervisor to address problems and conflicts that arise 3.5 Suggest possible ways of dealing with identified workplace issues

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

SKILL	DESCRIPTION
Reading	<ul style="list-style-type: none"> Identifies and interprets information to determine task requirements
Writing	<ul style="list-style-type: none"> Completes required documentation using organisational formats Composes simple documents for others to read
Oral Communication	<ul style="list-style-type: none"> Presents information and seeks advice using language and features appropriate to audience Participates in discussions using listening and questioning to elicit views of others and to clarify or confirm understanding
Initiative and enterprise	<ul style="list-style-type: none"> Identifies responsibilities of own role and follows explicit and implicit organisational protocols and procedures
Teamwork	<ul style="list-style-type: none"> Selects and uses appropriate communication practices when seeking or sharing information Establishes and builds rapport and relationships with others to foster a culture of respect and cooperation in communications Listens to the ideas of others and considers their needs
Planning and organising	<ul style="list-style-type: none"> Plans and organises work commitments to ensure deadlines and objectives are met

Unit Mapping Information

Supersedes and is equivalent to BSBWOR203 Work effectively with others.

Supersedes and is not equivalent to BSBFLM312 Contribute to team effectiveness.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBTWK201 Work effectively with others

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- work with a group to achieve an objective on at least two occasions and address at least one identified problem or conflict on each occasion.

In the course of the above, the candidate must:

- distinguish individual responsibilities from workgroup responsibilities
- demonstrate the ability to:
 - support team members
 - communicate according to the cultural and linguistic requirements of the individual
 - act on constructive feedback
 - use communication channels to share information
 - cooperate and contribute to team goals
 - identify improvement opportunities
- identify problems and conflicts and address them according to organisational and ethical policies and procedures.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- organisational and ethical standards, policies and procedures that relate to own work role
- team responsibilities and duties and their relationship to individual responsibilities and duties
- organisational policies and procedures relating to workplace discrimination and bullying
- personal values and beliefs including their importance in the development of relationships
- communication channels used to communicate in work teams including:
 - team meetings

- one-on-one interactions with individual team members
- emails
- instant messaging
- calls
- key problems and conflicts arising in workgroup contexts
- methods of resolving team problems including referral to relevant organisational personnel
- conflict resolution techniques.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- workplace discrimination and bullying legislation
- organisational and ethical standards, policies and procedures for working with others.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBWHS211 Contribute to the health and safety of self and others

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to work in a manner that is healthy and safe in relation to self and others, and to assist in responding to incidents. It covers following work health and safety (WHS) policies, procedures, instructions and requirements; and participating in WHS consultative processes.

The unit applies to those who require a basic knowledge of WHS to carry out own work in a defined context, under direct supervision or with some individual responsibility, in a range of industry and workplace contexts.

NOTES

1. The terms ‘occupational health and safety’ (OHS) and ‘work health and safety’ (WHS) are equivalent, and generally either can be used in the workplace. In jurisdictions where *model WHS laws* have not been implemented, registered training organisations (RTOs) are advised to contextualise this unit of competency by referring to existing WHS legislative requirements.

2. The *model WHS laws* include the model WHS Act, model WHS Regulations and model WHS Codes of Practice. See Safe Work Australia for further information.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Regulation, Licensing and Risk – Work Health and Safety

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
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ELEMENTS	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Operate safely in own work environment	1.1 Identify organisational WHS policies and procedures that apply to own work setting 1.2 Carry out work tasks according to WHS instructions 1.3 Carry out pre-start systems and equipment checks under supervision and according to organisational policies and procedures 1.4 Participate in responding to incidents according to organisational policies and procedures
2. Operate safely within requirements of own role	2.1 Identify individuals and/or parties to whom queries and concerns about safety in the workplace should be directed 2.2 Identify existing and potential hazards relating to own role, and record and report them according to organisational policies and procedures 2.3 Identify and contribute to implementing WHS instructions and organisational policies and procedures specific to own work area 2.4 Identify and report incidents and injuries to required personnel according to organisational policies and procedures
3. Participate in WHS consultative processes	3.1 Contribute to workplace meetings, inspections, and other WHS consultative activities 3.2 Identify existing and potential WHS hazards and report them to designated persons according to organisational policies and procedures 3.3 Participate in actions to minimise or eliminate workplace hazards and to reduce risks

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Identifies and interprets short and simple information in relation to WHS and incidents
Writing	<ul style="list-style-type: none"> Uses structure and language appropriate to audience and context when giving factual information

Skill	Description
Oral Communication	<ul style="list-style-type: none"> • Uses language and non-verbal communication appropriate to audience and context in descriptions, opinions and explanations • Extracts meaning and main ideas from verbal descriptions, opinions and explanations
Navigate the world of work	<ul style="list-style-type: none"> • Follows WHS legislative requirements under supervision and with assistance • Follows protocols and procedures relating to own role • Seeks assistance from others when WHS issues are beyond scope of immediate responsibilities
Get the work done	<ul style="list-style-type: none"> • Plans, organises and implements routine tasks in order to optimise health and safety • Selects and implements actions from predetermined procedures

Unit Mapping Information

Supersedes and is equivalent to BSBWHS201 Contribute to health and safety of self and others.

Links

Companion Volume Implementation Guide is found on VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBWHS211 Contribute to the health and safety of self and others

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, and to:

- actively participate in two different work activities that contribute to the health and safety of self and others
- identify and report at least one hazard to designated personnel.

During the above, the candidate must follow required procedures and instructions relating to work health and safety (WHS) and incidents.

Knowledge Evidence

The candidate must demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit. This includes knowledge of:

- organisational safety policies, procedures, instructions and requirements relating to own work role in relation to:
 - checking systems and equipment
 - conducting routine work operations
 - personal protective equipment (PPE)
 - recording existing and potential WHS issues
 - responding to and reporting incidents and injuries
 - responding to fires and incidents
- meaning of commonly used hazard signs and safety symbols
- duty holder responsibilities, as specified in WHS laws, including:
 - self and co-workers
 - persons conducting a business or undertaking (PCBUs)
 - officers
 - others in the workplace

- distinction between hazards and risks
- WHS hazards that may be present in the workplace, including the harm they can cause and how this harm occurs
- process of hazard identification and risk control.

Assessment Conditions

Assessment must comply with WHS laws, and WHS legal responsibilities and duty of care required for this unit. It must be conducted in a safe environment where evidence gathered demonstrates consistent performance of typical activities undertaken by individuals carrying out WHS duties in the workplace, and must include access to:

- organisational policies, standard operating procedures, and work instructions covered in the knowledge evidence
- WHS laws relevant to performance evidence requirements
- opportunities for interaction with others
- workplace equipment and resources required for the performance evidence.

Assessors of this unit must satisfy the assessor requirements in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume Implementation Guide is found on VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBWHS515 Lead initial response to and investigate WHS incidents

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 5.0.

Application

This unit describes the skills and knowledge required to lead the initial response to work health and safety (WHS) incidents. The unit also includes planning, conducting and reporting on investigations of WHS incidents that have resulted in, or have the potential to result in, injury or damage. This may include accessing specialist expertise.

The unit applies to those who work in a range of WHS roles across all industries, and apply a substantial knowledge base and well-developed skills in a wide variety of WHS contexts. It does not apply to those undertaking an investigation in order to provide legal advice or prepare for legal proceedings.

NOTES

1. The terms ‘occupational health and safety’ (OHS) and ‘work health and safety’ (WHS) are equivalent, and generally either can be used in the workplace. In jurisdictions where *model WHS laws* have not been implemented, registered training organisations (RTOs) are advised to contextualise this unit of competency by referring to existing WHS legislative requirements.

2. The *model WHS laws* include the model WHS Act, model WHS Regulations and model WHS Codes of Practice. See Safe Work Australia for further information.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Regulation, Licensing and Risk – Work Health and Safety

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Lead the initial response to incident	1.1 Identify required initial response to incident according to established organisational response plan 1.2 Implement initial response according to plan, and organisational and legislative requirements 1.3 Confirm sufficiency and suitability of implemented initial response 1.4 Consult individuals and/or parties according to organisational policies and procedures
2. Develop and resource an incident investigation plan	2.1 Identify duty holders according to WHS laws and workplace policies, procedures and systems 2.2 Define scope and purpose of investigation appropriate to nature and scope of incident 2.3 Identify, document and secure required human and other resources appropriate to nature and scope of incident, including expert advice as required 2.4 Ensure participation of, and consultation with, required stakeholders, and determine agreed processes for investigation 2.5 Identify, address and document potential barriers to investigation according to organisational requirements 2.6 Document incident investigation plan according to organisational and WHS legislative requirements
3. Collect incident information and data	3.1 Identify and access relevant and reliable sources of incident information and data according to organisational policies and protocols, suitable causation model and legislative requirements 3.2 Inspect incident site, equipment and other evidence according to investigation plan, organisational procedures and legislative requirements 3.3 Present collected information and data in required format
4. Lead an incident investigation that is not part of providing legal advice or preparing for legal	4.1 Brief investigation team on investigation requirements and incident causation model 4.2 Construct and document timeline of events leading up

ELEMENTS	PERFORMANCE CRITERIA
proceedings	<p>to incident</p> <p>4.3 Coordinate investigation of key events, conditions and/or circumstances that contributed to incident</p> <p>4.4 Develop recommendations, interventions and practical measures for investigation report</p>
5. Record and report WHS incident investigation	<p>5.1 Document investigation evidence and basis for conclusions and recommendations</p> <p>5.2 Prepare investigation report according to organisational procedures and WHS legislative requirements</p> <p>5.3 Implement organisational and WHS legislative recordkeeping protocols and procedures in relation to investigation report</p> <p>5.4 Communicate report to required individuals and/or parties according to organisational policies and procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Reviews and interprets WHS legislative texts relating to WHS incidents Analyses reports and other material to determine required course of action
Writing	<ul style="list-style-type: none"> Documents procedures, plans and outcomes using appropriate organisational formats and industry-specific terminology Develops reports using structure, format and language appropriate for report purpose and audience
Oral communication	<ul style="list-style-type: none"> Uses appropriate language and non-verbal features to provide support, give instructions or

Skill	Description
Communication	<ul style="list-style-type: none"> request information Listens closely to extract main ideas and to evaluate initial responses for accuracy and validity
Numeracy	<ul style="list-style-type: none"> Extracts and evaluates the numerate and graphical information embedded in sources of incident information and data Performs calculations in relation to resource requirements, timelines and evaluation measures, and the impact and implications of incidents
Navigate the world of work	<ul style="list-style-type: none"> Develops, implements or modifies workplace procedures applicable to investigation contexts Keeps up to date on changes to WHS laws relevant to own role and responsibilities, and considers their implications when negotiating, planning and undertaking work
Interact with others	<ul style="list-style-type: none"> Identifies and uses appropriate conventions and protocols when communicating with parties involved in various investigation stages Collaborates with others to achieve joint outcomes, playing an active role in facilitating effective group interaction Takes a leadership role in developing team understanding of investigation requirements
Get the work done	<ul style="list-style-type: none"> Uses logical planning processes and understanding of context to: <ul style="list-style-type: none"> identify relevant information and risks identify and evaluate alternative strategies and resources for investigation processes Sequences and schedules complex activities, monitors implementation and manages relevant

Skill	Description
	<p data-bbox="379 297 576 331">communication</p> <ul data-bbox="331 342 842 600" style="list-style-type: none"><li data-bbox="331 342 842 488">• Uses analytical processes to review plans and seeks input and advice from others before taking necessary action<li data-bbox="331 499 842 600">• Uses digital systems and tools for data collection and analysis, and communication and reporting

Unit Mapping Information

Supersedes and is equivalent to BSBWHS505 Investigate WHS incidents.

Links

Companion Volume Implementation Guides are available from VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBWHS515 Lead initial response to and investigate WHS incidents

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 5.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, and to:

- lead the initial response to one work health and safety (WHS) incident that complies with legislative and organisational requirements
- prepare, record and communicate incident investigation report that addresses immediate and underlying causes of incident and recommends practical prevention measures, according to organisational and WHS legislative requirements.

During the above, the candidate must:

- systematically develop and document a plan to investigate the incident
- collect, use and document information and data relevant to incident investigation
- establish key events, conditions and/or circumstances that contributed to the incident
- identify actions required to respond to the incident, including any recommendations for changes to WHS arrangements.
-

Knowledge Evidence

The candidate must demonstrate the knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit. This includes knowledge of:

- WHS laws applicable to WHS incidents and their investigation
- organisational WHS policies, procedures, processes, systems, roles and responsibilities relating to responding to and investigating WHS incidents:
 - incident response plan that meets legislative and organisational requirements
 - protocols and procedures for investigation, including preserving incident site as required
 - protocols for maintaining objectivity, confidentiality, privacy and commercial requirements during investigation of WHS incident

- information and data collection procedures that ensure their validity, admissibility and accuracy
- due diligence and duty of care requirements when investigating WHS incidents
- required format for reporting incident investigations
- common industry-accepted causation models, and their use in informing data collection and analysis
- internal and external sources of WHS information and data relevant to WHS incident investigations
- key components of incident investigation plan, including:
 - duty holders, expert advisers and key stakeholders appropriate to incident
 - agreed timelines, objectives, responsibilities, roles, documentation, actions and outcomes
 - levels of accountability
 - protocols for ensuring privacy and sensitivity throughout investigation
- key components of investigation report, including:
 - identified incident root causes
 - recommended actions, interventions and practical measures arising from investigation
 - plans for implementing and evaluating recommendations
- techniques and tools for gathering information relating to incident investigation, including:
 - questioning and active listening
 - information collection
 - accurate note taking
- types and characteristics of WHS incidents and suitable incident response processes.
-

Assessment Conditions

Assessment must comply with WHS laws, legal responsibilities and duty of care required for this unit. It must be conducted in a safe environment where evidence gathered demonstrates consistent performance of typical activities undertaken by individuals carrying out WHS duties in the workplace, and must include access to:

- workplace equipment and resources
- WHS laws, and organisational policies and procedures required to demonstrate the performance evidence
- case studies and, where possible, real situations
- opportunities for interaction with others.

Assessors of this unit must satisfy the assessor requirements in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume Implementation Guides are available from VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBXCM401 Apply communication strategies in the workplace

Modification History

Release	Comments
Release 2	This version released with BSB Business Services Training Package Version 7.0. Version created to clarify knowledge evidence
Release 1	This version first released with BSB Business Services Training Package Version 4.0.

Application

This unit describes the skills and knowledge required to facilitate and apply communication strategies in the workplace within any industry.

This unit has a specific focus on the communication skills required for supervisor level workers with responsibility for other workers.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Cross Sector Skill

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Prepare for communication	1.1 Identify work activities requiring communication 1.2 Establish communication requirements for identified work activities 1.3 Identify communication roles for self and others to complete activity

Elements	Performance Criteria
	<p>1.4 Seek assistance or clarification regarding communication objectives as required</p> <p>1.5 Select appropriate method of communicating information internally and externally based on organisational requirements</p>
2. Use communication strategies to provide work instruction	<p>2.1 Use appropriate presentation methods to communicate information or instruction based on the requirements of audience</p> <p>2.2 Use appropriate method of communication to communicate information or instruction based on the requirements of audience</p> <p>2.3 Negotiate expected work requirements with others and clarify that instructions have been understood</p>
3. Facilitate workplace communication	<p>3.1 Use interpersonal skills to build relationships with team members and clients and facilitate respectful interaction</p> <p>3.2 Facilitate respectful communication amongst others, considering the needs of those from diverse backgrounds</p> <p>3.3 Use problem solving and decision making skills to resolve any communication challenges</p> <p>3.4 Obtain confirmation on outcomes of communication challenges to ensure issues have been resolved</p>
4. Monitor and support team communication	<p>4.1 Ensure all communication is consistent with legislative and organisational requirements</p> <p>4.2 Provide performance feedback and additional support to others when required</p> <p>4.3 Seek feedback and assistance from others to improve own communication techniques</p> <p>4.4 Collate and report any important information and unresolved issues to relevant superiors</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

Skill	Description

Skill	Description
Writing	<ul style="list-style-type: none"> Develops written texts using appropriate grammar, spelling and punctuation in relevant organisational formats
Navigate the world of work	<ul style="list-style-type: none"> Understands responsibilities and complies with legislative, regulatory and organisational requirements
Get the work done	<ul style="list-style-type: none"> Uses problem-solving skills to identify and analyse issues or barriers, consider options and develop responses and opportunities for improvement Uses digital technology to find, record or communicate basic information

Unit Mapping Information

No equivalent unit. New unit.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBXCM401 Apply communication strategies in the workplace

Modification History

Release	Comments
Release 2	This version released with BSB Business Services Training Package Version 7.0. Version created to clarify knowledge evidence
Release 1	This version first released with BSB Business Services Training Package Version 4.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria, and foundation skills of this unit, including evidence of the ability to:

- identify the communication requirements for a work activity and assign roles to others to fulfil those requirements
- select appropriate communication method for relevant audience and according to organisational requirements
- articulate to others their roles in fulfilling the communication requirements and negotiate roles in response to feedback
- present and convey information to others in a way that they can understand and demonstrate that the needs of all recipients, including those from diverse backgrounds have been considered
- demonstrate problem solving techniques to negotiate and resolve communication challenges
- evaluate the communication process and identify areas for improvement, reporting to relevant supervisors as required.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- legislative requirements relevant to workplace communication
- organisational requirements relevant to workplace communication (including digital form):
 - policies and protocols
 - codes of conduct

- organisational reputation and culture
- techniques to resolve communication challenges
- methods and techniques to participate in workplace discussions, including active listening, questioning and providing feedback
- key principles of cross-cultural communication and communication with individuals with special needs or disabilities
- presentation methods to present and convey workplace information or instructions:
 - formal presentation using visual aids and prompts
 - informal team meeting or instructional briefing
 - written work instruction for a process or procedure
- communication methods suited to audience and workplace requirement:
 - verbal means: telephones, mobiles, video conference
 - written means: emails, SMS, social media
- communication challenges relevant to performance evidence:
 - conflicts with clients or team members
 - potential risks or safety hazards
 - unethical or inappropriate communication
 - use of visual prompts and presentations
 - communication that falls outside of workplace policy
- key relevant features of:
 - different communication styles
 - different communication methods
 - cross cultural communication techniques.

Assessment Conditions

Mandatory conditions for assessment include:

- A safe working or simulated environment

Assessors of this unit must satisfy the assessor requirements in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBXTW301 Work in a team

Modification History

Release	Comments
Release 2	This version first released with BSB Business Services Training Package Version 5.0. Version created to rectify typographical error
Release 1	This version first released with BSB Business Services Training Package Version 4.0.

Application

This unit describes the skills and knowledge required to work effectively as part of permanent or project based teams in a workplace within an industry.

This unit applies to a wide range of workers, but has a specific focus on the teamwork skills required for workers with limited responsibility for others.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Cross Sector Skill

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Identify individual work tasks within a team	1.1 Identify own responsibilities according to organisational policies and procedures 1.2 Identify own role and task requirements within team 1.3 Articulate team structure and roles of other team members 1.4 Plan and prioritise own tasks according to given time frames and

	team requirements
2. Contribute effectively to team goals	<p>2.1 Identify team goals and own responsibilities relevant to achieving team goals</p> <p>2.2 Contribute ideas and information in team planning discussions</p> <p>2.3 Share knowledge and skills with team members to enable effective teamwork and seek or offer support as required</p>
3. Work effectively with team members	<p>3.1 Communicate clearly and respectfully with team members, considering the needs of those from diverse backgrounds and roles</p> <p>3.2 Collaborate effectively with team members, including those who are working remotely on workplace issues</p> <p>3.3 Seek and provide assistance and feedback to team members where appropriate</p>
4. Communicate effectively with team leaders	<p>4.1 Receive and confirm understanding of task instructions or directions</p> <p>4.2 Communicate personal commitments in a timely manner</p> <p>4.3 Identify and report any issues preventing the completion of workplace tasks, according to organisational requirements</p> <p>4.4 Seek and act upon feedback to improve personal performance and/or behaviour</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

Skill	Description
Interact with others	<ul style="list-style-type: none"> • Uses appropriate communication practices when communicating with others • Cooperates and collaborates with team members
Get the work done	<ul style="list-style-type: none"> • Plans and implements routine tasks and workload making limited decisions on sequencing, timing and collaboration, seeking assistance in setting priorities • Uses digital technology to find, record or communicate information

Unit Mapping Information

No equivalent unit. New unit.

Links

Companion Volume Implementation Guides are available from VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBXTW301 Work in a team

Modification History

Release	Comments
Release 2	This version first released with BSB Business Services Training Package Version 5.0. Version created to rectify typographical error
Release 1	This version first released with BSB Business Services Training Package Version 4.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria, and foundation skills of this unit, including on at least one occasion, evidence of the ability to:

- identify individual and team roles and responsibilities
- plan assigned tasks according to priorities and deadlines, and in accordance with organisational requirements
- contribute to achievement of team goals
- share knowledge, ideas and problems with team members
- act on feedback in a constructive manner
- collaborate with a remote team member on a workplace issue.
-

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- organisational requirements relevant to working in a workplace team:
 - workplace policies
 - codes of conduct
 - organisational reputation and culture
- typical compositions of workplace teams, and the roles and responsibilities of team members within organisations
- techniques for giving and receiving feedback in a constructive manner
- methods to support team members
- key principles of cross-cultural communication and communication with individuals with special needs or disabilities

- methods and tools to work with others remotely:
 - collaboration via phone or mobile
 - collaboration via video conference
 - collaboration via other digital tools or software
- issues that may impact team performance and outcomes
- techniques to collaborate effectively with those working remotely.
-

Assessment Conditions

Mandatory conditions for assessment include:

- A safe working or simulated environment

Assessors of this unit must satisfy the assessor requirements in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume Implementation Guides are available from VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

BSBXTW401 Lead and facilitate a team

Modification History

Release	Comments
Release 2	This version released with BSB Business Services Training Package Version 7.0. Version created to clarify knowledge evidence
Release 1	This version first released with BSB Business Services Training Package Version 4.0.

Application

This unit describes the skills and knowledge required to effectively lead and facilitate a team in a workplace within any industry.

This unit has a specific focus on the teamwork skills required for team leader or supervisor level (depending on organisational structure) workers with responsibility for others or teams.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Cross Sector Skill

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Plan team outcomes	1.1 Identify common objectives of workplace team, responsibilities and required outcome(s) 1.2 Use performance plans to establish expected outcomes, goals, and behaviours for individual team members in accordance with team objective and relevant policies

	<p>1.3 Select appropriate strategies to ensure team members are accountable for their roles and responsibilities</p> <p>1.4 Plan for contingencies that could impact the team</p>
2. Coordinate team and individuals	<p>2.1 Communicate common team objectives and responsibilities to team members</p> <p>2.2 Allocate tasks to team members based on staff expertise or development potential and provide appropriate instructions</p> <p>2.3 Facilitate open and respectful communication and collaboration between team members, considering the needs of those from diverse backgrounds</p> <p>2.4 Identify opportunities for cross collaboration amongst external and internal teams and individuals</p>
3. Support team	<p>3.1 Provide coaching to staff to enhance workplace culture</p> <p>3.2 Support individuals according to organisational requirements to work towards common team goals</p> <p>3.3 Facilitate team to identify, brainstorm, report and resolve task related issues and inefficiencies</p> <p>3.4 Use problem solving skills to deal with any team, task or individual challenges</p>
4. Monitor team performance	<p>4.1 Measure team member performance against agreed work plans</p> <p>4.2 Provide timely and constructive performance feedback to team members according to expected organisational standards</p> <p>4.3 Identify specific learning and development opportunities to improve team and individual performance and behaviours</p> <p>4.4 Implement action plans to address individual and team training needs</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

Skill	Description
Interact with others	<ul style="list-style-type: none"> • Uses appropriate communication practices when communicating with team members and facilitating activities • Establishes and builds relationships and rapport with team members to foster a positive team environment • Recognises the perspectives of team members and diversity of

Skill	Description
	opinion, and manages conflict as required
Navigate the world of work	<ul style="list-style-type: none">• Understands and explains ethical and legal, regulatory and organisational responsibilities to team
Get the work done	<ul style="list-style-type: none">• Plans, organises and implements work activities in line with organisational policies and procedures

Unit Mapping Information

No equivalent unit. New unit.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Assessment Requirements for BSBXTW401 Lead and facilitate a team

Modification History

Release	Comments
Release 2	This version released with BSB Business Services Training Package Version 7.0. Version created to clarify knowledge evidence
Release 1	This version first released with BSB Business Services Training Package Version 4.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria, and foundation skills of this unit, including on at least one occasion, evidence of the ability to:

- assign tasks to team members with appropriate instruction and considering any required contingencies
- provide feedback and assistance to team members
- collate feedback on individual and team performance
- identify and implement development opportunities for others
- manage conflicts and challenges according to organisational requirements.
-

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- organisational requirements relevant to workplace teams:
 - workplace policies
 - codes of conduct
 - organisational reputation and culture
- legislative requirements relevant to the workplace
- facilitation techniques to encourage team cohesion and effectiveness
- mentoring and coaching techniques to support team members
- strategies for conflict resolution and negotiation
- different methods and styles of communication

- key principles of cross-cultural communication and communication with individuals with special needs or disabilities
- professional behaviours to role model as a leader
- typical workplace contingencies that can impact teams:
 - unplanned leave or absence of workers
 - re-allocation of work tasks
 - succession planning for important team roles
- teamwork challenges relevant to performance evidence:
 - difficulties performing tasks
 - conflicts with clients or team members
 - potential risks or safety hazards
 - unethical or inappropriate behaviour.

Assessment Conditions

Mandatory conditions for assessment include:

- A safe working or simulated environment

Assessors of this unit must satisfy the assessor requirements in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10>

CPCBC4001 Apply building codes and standards to the construction process for Class 1 and 10 buildings

Modification History

Release 2 This version first released with CPC Construction, Plumbing and Services Training Package Release 6.4.

Typographical error corrected in the Knowledge Evidence. Word 'detects' corrected to read 'defects'.

Release 1 This version first released with CPC Construction, Plumbing and Services Training Package Release 5.0.

Supersedes and is not equivalent to CPCBC4001A Apply building codes and standards to the construction process for low rise building projects.

CPCBC4001A Apply building codes and standards to the construction process for low rise buildings has been split into two units, one for residential low-rise buildings and one for commercial low-rise buildings.

Attainment of both CPCBC4001 and CPCBC4053 is equivalent to CPCBC4001A.

Updated to meet the Standards for Training Packages 2012.

Application

This unit of competency specifies the skills and knowledge required to access, interpret and apply relevant building codes and standards applicable to the National Construction Code (NCC) Classes 1 and 10 buildings, to a maximum of two storeys. It includes knowledge of the structure of the NCC, as well as the ability to access relevant information from the code as applicable to various building projects.

It applies to builders, site managers and related construction industry professionals responsible for ensuring compliance with building codes and standards related to residential construction projects.

This unit of competency is suitable for those using specialised knowledge to complete routine and non-routine tasks and using their own judgement to deal with predictable and sometimes unpredictable problems.

Completion of the general construction induction training program specified by the model Code of Practice for Construction Work is required for any person who is to carry out construction work. Achievement of *CPCWHS1001 Prepare to work safely in the construction industry* meets this requirement.

Licensing, regulatory or registration requirements apply to this unit of competency in some jurisdictions. Relevant state and territory regulatory authorities should be consulted to confirm these requirements.

Pre-requisite Unit

Nil.

Unit Sector

Building and Construction

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe what needs to be done to demonstrate achievement of the element.

- | | |
|---|---|
| 1 Classify building. | 1.1 Determine nature of building, its use and arrangement from construction plans and specifications. |
| | 1.2 Access, read and interpret relevant Australian Standards and codes for residential building and construction projects. |
| | 1.3 Define classification of building from the NCC. |
| | 1.4 Identify and interpret multiple classifications from the NCC. |
| 2 Determine construction compliance requirements. | 2.1 Identify NCC Performance Requirements relevant to Class 1 and 10, up to two storeys, building projects. |
| | 2.2 Determine range of criteria to ensure that construction methods comply with NCC Performance Requirements. |
| | 2.3 Identify and document non-conforming construction methods against NCC Performance Requirements. |
| | 2.4 Propose and discuss Performance Solution with design and building and construction professionals. |
| | 2.5 Analyse and apply Assessment Methods to determine compliance with Performance Solution or Deem-to-Satisfy Solution (DTS). |

- | | | |
|---|-----|--|
| | 2.6 | Meet the evidence of suitability requirements for building materials and products stated in the NCC. |
| | 2.7 | Complete relevant documentation to meet NCC requirements. |
| 3 Determine fire protection requirements. | 3.1 | Identify NCC and other legislative requirements for passive and active fire control elements in buildings. |
| | 3.2 | Determine level of fire resistance required for the construction of various buildings. |
| | 3.3 | Check existing buildings for compliance with passive and active fire protection requirements. |

Foundation Skills

As well as the foundation skills explicit in the performance criteria of this unit, candidates require:

- problem-solving skills to:
 - analyse non-conforming construction methods, define key problem and produce appropriate solution
 - seek clarification of appropriate solution to meet construction method compliance
- technology skills to:
 - use digital tools and devices to communicate and collaborate effectively with others
 - use equipment and programs to access, extract information and develop relevant documentation.

Unit Mapping Information

Supersedes and is not equivalent to CPCBC4001A Apply building codes and standards to the construction process for low rise building projects.

CPCBC4001A Apply building codes and standards to the construction process for low rise buildings has been split into two units, one for residential low-rise buildings and one for commercial low-rise buildings.

Attainment of both CPCBC4001 and CPCBC4053 is equivalent to CPCBC4001A.

Links

Companion volumes to this training package are available at the VETNet website -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad>

Assessment Requirements for CPCBC4001 Apply building codes and standards to the construction process for Class 1 and 10 buildings

Modification History

Release 2 This version first released with CPC Construction, Plumbing and Services Training Package Release 6.4.

Typographical error corrected in the Knowledge Evidence. Word 'detects' corrected to read 'defects'.

Release 1 This version first released with CPC Construction, Plumbing and Services Training Package Release 5.0.

Supersedes and is not equivalent to CPCBC4001A Apply building codes and standards to the construction process for low rise building projects.

CPCBC4001A Apply building codes and standards to the construction process for low rise buildings has been split into two units, one for residential low-rise buildings and one for commercial low-rise buildings.

Attainment of both CPCBC4001 and CPCBC4053 is equivalent to CPCBC4001A.

Updated to meet the Standards for Training Packages 2012.

Performance Evidence

To demonstrate competency, a candidate must meet the elements and performance criteria of this unit by applying codes and standards to the construction process of one Class 1 or 10 building project, to a maximum of two storeys.

In doing this, the candidate must:

- determine type of construction and use of building from construction plans and specifications and class of building using National Construction Code (NCC) classifications
- identify current building and construction codes and Australian Standards relevant to the building project
- apply NCC Performance Requirements in relation to the design and construction of the building:
 - energy efficiency
 - damp and weatherproofing
 - fire safety
 - health and amenity

- structure
- safe movement and access
- ancillary provisions
- apply Performance Solutions to ensure that construction complies with NCC Performance Requirements
- identify faults and problems and propose actions to rectify
- inspect a building to determine fire protection compliance with NCC and other legislative requirements.

Knowledge Evidence

To be competent in this unit, a candidate must demonstrate knowledge of:

- government building legislation, codes and standards:
 - the NCC:
 - Performance Requirements and General Requirements
 - Performance Solutions and Assessment Methods
 - Performance Hierarchy
 - evidence of suitability for building materials and products
 - classes of building and types of construction
- organisational policies and procedures, quality systems and best practice approaches
- workplace safety requirements
- properties, characteristics and limitations of specified building materials and components
- processes, procedures and techniques of construction
- basic building design principles and the behaviour of structures under stress, strain, compression, bending or combined actions
- causes and implications of building defects related to failure of applying building codes and standards to residential and commercial buildings
- extent of remedial work required for various defects caused by inadequate design and application of building codes and practices
- environmental requirements and sustainability principles and concepts
- project plans, specifications, working drawings and structural details
- construction terminology.

Assessment Conditions

Assessors must meet the requirements for assessors contained in the Standards for Registered Training Organisations.

Assessment can be undertaken in the workplace or in a simulated workplace environment.

A simulated environment is one that realistically replicates workplace conditions, materials and equipment, interactions with others and workplace irregularities, and which meets industry standards for safety and environmental practices.

Candidates must have access to:

- relevant government building and construction regulations
- current building and construction codes and standards
- NCC Volume 2
- construction drawings, site plans and specifications
- organisational policies and procedures and other quality documentation to undertake the performance criteria and assessment requirements
- digital technology devices, applications and software to source and document information.

Links

Companion volumes to this training package are available at the VETNet website -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad>

CPCBC4024 Resolve business disputes

Modification History

Release 1 This version first released with CPC Construction, Plumbing and Services Training Package Release 5.0.

Supersedes and is equivalent to CPCBC4024A Resolve business disputes.
Updated to meet the Standards for Training Packages 2012.

Application

This unit of competency specifies the skills and knowledge required to advise on or resolve business disputes that may arise during activities in residential and commercial contracting projects. It includes the development and implementation of dispute resolution processes and procedures.

This unit of competency applies to builders, site supervisors and related construction industry professionals responsible for resolving business disputes in a positive manner.

This unit of competency is suitable for people with specialised knowledge, completing routine and non-routine tasks and using their own judgement to deal with predictable and sometimes unpredictable problems.

Completion of the general construction induction training program specified by the model Code of Practice for Construction Work is required for any person who is to carry out construction work. Achievement of *CPCWHS1001 Prepare to work safely in the construction industry* meets this requirement.

Licensing, regulatory or registration requirements apply to this unit of competency in some jurisdictions. Relevant state and territory regulatory authorities should be consulted to confirm these requirements.

Pre-requisite Unit

Nil.

Unit Sector

Building and Construction

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe what needs to be done to demonstrate achievement of the element.

- 1 Evaluate dispute information.
 - 1.1 Review and evaluate information to identify the dispute issue, potential causes, circumstances and persons involved.
 - 1.2 Analyse and appraise contractual arrangements and agreements and relevant legislation.
 - 1.3 Identify risks and prepare contingency strategies.
 - 1.4 Obtain advice from senior managers and other professionals to develop a dispute resolution strategy.
 - 1.5 Follow dispute resolution procedure.
 - 1.6 Secure agreement for procedure from all parties.

- 2 Negotiate with parties.
 - 2.1 Interview concerned parties individually to clarify reasons for dispute, issues and desired outcome.
 - 2.2 Conduct an inspection of work in dispute, as required, to determine compliance with the requirements.
 - 2.3 Develop solutions based on interview with parties, inspection of work and compliance with requirements to optimise likelihood of a favourable outcome.
 - 2.4 Offer parties recommended solutions to resolve dispute equitably and advise parties of legal processes should resolution not occur.
 - 2.5 Record and maintain dispute process, information and outcome.

- 3 Identify opportunities for dispute resolution.
 - 3.1 Identify and detail process to consult with external arbitrators or conciliators when disputes cannot be resolved internally.
 - 3.2 Implement procedures to settle dispute promptly following statutory law, professional and organisational requirements.
 - 3.3 Communicate with relevant parties to ensure client satisfaction or follow up actions.

Foundation Skills

As well as the foundation skills explicit in the performance criteria of this unit, candidates require:

- speaking and listening skills to:
 - actively listen and use observational and questioning techniques to identify different perspectives and confirm, clarify and revise understanding.

Unit Mapping Information

Supersedes and is equivalent to CPCBC4024A Resolve business disputes

Links

Companion volumes to this training package are available at the VETNet website - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad>

Assessment Requirements for CPCBC4024 Resolve business disputes

Modification History

Release 1 This version first released with CPC Construction, Plumbing and Services Training Package Release 5.0.

Supersedes and is equivalent to CPCBC4024A Resolve business disputes.
Updated to meet the Standards for Training Packages 2012.

Performance Evidence

To demonstrate competency in this unit, a candidate must meet the elements and performance criteria of this unit by resolving one construction project dispute.

In doing this, the candidate must:

- identify the nature of the dispute and identify the parties in the dispute
- document dispute details accurately and in sufficient terms to eliminate any ambiguity
- follow established dispute resolution procedures and develop and implement dispute resolution procedures where none are established
- maintain impartiality throughout the dispute resolution process.

Knowledge Evidence

To be competent in this unit, a candidate must demonstrate knowledge of:

- contractual and business frameworks underpinning the building and construction industry
- legislation and other guidelines:
 - common law
 - consumer law
 - contract law
 - government dispute resolution guidelines
 - privacy
- dispute resolution and conflict theory
- risk assessment and evaluation strategies
- negotiating processes and strategies
- industry dispute resolution guidelines
- organisational policies and procedures
- values and attitudes of various groups in the community that should be accounted for in discussions
- possible reactions and behaviours from persons in a dispute situation

- dispute resolution procedures:
 - mutual resolution
 - on-site negotiations
 - reference to contractual obligations
 - arbitrated decisions
 - common law outcomes
 - litigated decisions
- causes of business disputes:
 - contract payment issues
 - different opinions about design, structural layout or dimensions
 - dissatisfaction with project progress
 - structural finish, quality, materials or construction methodology
- digital tools and devices to communicate and collaborate effectively with others
- a range of digitally-based technology and applications to access, extract integrate and compile information.

Assessment Conditions

Assessors must satisfy the requirements for assessors listed in the Standards for Registered Training Organisations.

Assessment can be undertaken in the workplace or in a simulated workplace environment.

A simulated environment is one that realistically replicates workplace conditions, materials and equipment, interactions with others and workplace irregularities, and which meets industry standards for safety and environmental practices.

Candidates must have access to:

- current building and construction codes and standards
- contracts, construction drawings and specifications
- relevant government legislation and other quality documentation to undertake the performance criteria and assessment requirements
- digital devices, applications and software to receive, record and save dispute information electronically.

Links

Companion volumes to this training package are available at the VETNet website - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad>

CPCCOM1015 Carry out measurements and calculations

Modification History

Release 2 This version first released with CPC Construction, Plumbing and Services Training Package Release 5.1.

Rectified to reflect endorsed version.

Release 1 This version first released with CPC Construction, Plumbing and Services Training Package Release 5.0.

Supersedes and is equivalent to CPCCCM1015 Carry out measurements and calculations. Updated to reflect current industry terminology, tools and equipment.

Application

This unit of competency specifies the skills and knowledge required to undertake basic measurements and calculations to determine task and material requirements in a construction work environment.

A person working at this level would be expected to complete tasks assigned to them, under supervision.

Completion of the general construction induction training program specified by the model Code of Practice for Construction Work is required for any person who is to carry out construction work. Achievement of *CPCCWHS1001 Prepare to work safely in the construction industry* meets this requirement.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil.

Unit Sector

Common

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe what needs to be done to demonstrate achievement of the element.

- | | |
|-------------------------------|--|
| 1 Obtain measurements. | 1.1 Select most appropriate equipment and method for obtaining the measurement. |
| | 1.2 Use a ruler or tape to obtain linear measurements accurate to 1 mm. |
| 2 Perform basic calculations. | 2.1 Take basic measurements and calculate quantities of materials in a construction environment, using basic formulae for each of: weight, area, volume, perimeter, circumference, ratio and percentage. |
| | 2.2 Convert measurements in metres to millimetres and measurements in millimetres to metres. |
| | 2.3 Check calculations for accuracy and record calculation workings and results. |

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Supersedes and is equivalent to CPCCCM1015 Carry out measurements and calculations.

Links

Companion volumes to this training package are available at the VETNet website - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad>

Assessment Requirements for CPCCOM1015 Carry out measurements and calculations

Modification History

Release 2 This version first released with CPC Construction, Plumbing and Services Training Package Release 5.1.

Rectified to reflect endorsed version.

Release 1 This version first released with CPC Construction, Plumbing and Services Training Package Release 5.0.

Supersedes and is equivalent to CPCCCM1015 Carry out measurements and calculations. Updated to reflect current industry terminology, tools and equipment.

Performance Evidence

To demonstrate competency, a candidate must satisfy all the elements, performance criteria and foundation skills of this unit by:

- taking basic measurements and performing basic calculations to determine quantities of materials for construction work using each of the following:
 - weight
 - area
 - volume
 - perimeter
 - circumference
 - ratio
 - percentage
- demonstrating converting measurements in metres to millimetres and measurements in millimetres to metres.

All work must be performed to the standard required in the workplace.

Knowledge Evidence

To be competent in this unit, a candidate must demonstrate knowledge of:

- types of equipment required for planning and performing basic measurements and calculations and their characteristics, uses and limitations, including:
 - rulers
 - tape measures

- digital measuring and calculating devices
- methods of calculating the area and volume of the following in a construction environment:
 - rectangles
 - squares
 - circles
 - triangles
 - trapeziums
 - cubes
 - cylinders.
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Assessment Conditions

Assessors must meet the requirements for assessors contained in the Standards for Registered Training Organisations.

This unit must be assessed in the workplace or a close simulation using realistic workplace conditions, materials, activities, responsibilities, procedures, safety requirements and environmental considerations.

Links

Companion volumes to this training package are available at the VETNet website - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad>

CPPCMN4008 Read plans, drawings and specifications for residential buildings

Modification History

Release 1.

Replaces superseded equivalent CPPCMN4008A Read and extract information from plans, drawings and specifications for residential buildings.

This version first released with CPP Property Services Training Package Version 5.

Application

This unit of competency specifies the outcomes required to read and extract information from different types of plans, building drawings and specifications for residential buildings.

The unit supports workers in the property industry who are required to read and extract routine information from a variety of plans and drawings associated with residential buildings. It applies to real estate agents, property managers, strata managers, Nationwide House Energy Rating Scheme (NatHERS) assessors, home sustainability assessors and facility managers.

Licensing, legislative, regulatory or certification requirements apply to this unit in some States and Territories. Relevant state and territory regulatory authorities should be consulted to confirm those requirements.

Pre-requisite Unit

Nil

Competency Field

Common

Unit Sector

Property services

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the range of conditions.
1. Identify and review plans and drawings.	<p>1.1. Main <i>types of plans and drawings</i> for <i>residential buildings</i> are identified.</p> <p>1.2. Purpose of different types of plans and drawings are identified.</p> <p>1.3. <i>Key features of each type of plan and drawing</i> are identified.</p>
2. Check amendments to plans and drawings.	<p>2.1. Title panel is checked to verify latest amendment to plans and drawings.</p> <p>2.2. Amendments to <i>specifications</i> are checked to ensure currency of information.</p>
3. Identify symbols, terms, abbreviations and shading used in plans and drawings.	<p>3.1. Symbols used in plans and drawings are identified.</p> <p>3.2. Abbreviations used in plans and drawings are identified.</p> <p>3.3. Colouring and shading used in plans and drawings are identified.</p> <p>3.4. Building and construction terms used in plans and drawings are identified.</p>
4. Locate and identify key features on a site plan.	<p>4.1. Site is identified from location drawings.</p> <p>4.2. True north and building orientation are identified from details provided on site plan.</p> <p>4.3. <i>Key features of site plan</i> are identified.</p>
5. Extract data from plans, drawings and specifications.	<p>5.1. Key building features are identified in relevant plans and drawings.</p> <p>5.2. <i>Data on key building features</i> is extracted from relevant plans, drawings and specifications.</p> <p>5.3. Building codes or standards identified in specifications are identified.</p> <p>5.4. Key features of products included in specifications are identified.</p>

Foundation Skills

This section describes the language, literacy, numeracy and employment skills essential to performance in this unit but not explicit in the performance criteria.

Skill	Performance feature
Learning skills to:	<ul style="list-style-type: none">maintain current knowledge of types and application of plans, drawings and specifications for residential buildings.
Numeracy skills to:	<ul style="list-style-type: none">convert numerical values and scales shown on plans, drawings and specifications for buildings.
Reading skills to:	<ul style="list-style-type: none">read and interpret information about agency practices, industry conduct standards, and employment conditions.
Writing skills to:	<ul style="list-style-type: none">record information extracted during review.
Technology skills to:	<ul style="list-style-type: none">use computerised databases to locate relevant plans, drawings and specifications for residential buildings.

Range of Conditions

This section specifies work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included. Bold italicised wording, if used in the performance criteria, is detailed below.

<i>Types of plans and drawings</i> must include:	<ul style="list-style-type: none">drawings:<ul style="list-style-type: none">detailselevationground planslayout drawingsplans:<ul style="list-style-type: none">heritage and conservation overlayslandscaping and vegetationlocalitylot and common property survey planssitesstrata planssurvey plansservices drawings:<ul style="list-style-type: none">drainage
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- ducts
 - piping
 - vertical section
 - waste disposal
 - wiring
 - sketches.
- Residential buildings** must include:
- any building categorised as Class 1, 2, 4 and 10a of the Building Code of Australia or in accordance with jurisdictional requirements.
- Key features of each type of plan and drawing** must include at least four of the following:
- certification
 - compatibility
 - construction
 - dimensions
 - legend
 - location
 - orientation
 - quantities of materials
 - scale
 - sizes
 - types of products or services.
- Specifications** must include at least two of the following:
- levels and survey information
 - material technical data
 - materials lists
 - performance data
 - schedules of quantities
 - stress, load and bearing calculations.
- Key features of site plan** must include:
- access and egress
 - common property
 - contours and slopes
 - drainage lines
 - easements
 - environmental and heritage overlays
 - existing dwellings, buildings or other structures
 - location and situation
 - major geological and topographical features
 - orientation
 - paving
 - retaining walls
 - scale
 - service connection points
 - set backs

Data on key building features must include:

- stormwater disposal
- trees and other vegetation.
- common property
- dimensions
- location
- materials
- ratings
- standards.

Unit Mapping Information

CPPCMN4008A Read and extract information from plans, drawings and specifications for residential buildings

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6f3f9672-30e8-4835-b348-205dfcf13d9b>

Assessment Requirements for CPPCMN4008 Read plans, drawings and specifications for residential buildings

Modification History

Release 1.

Replaces superseded equivalent CPPCMN4008A Read and extract information from plans, drawings and specifications for residential buildings.

This version first released with CPP Property Services Training Package Version 5.

Performance Evidence

A person demonstrating competency in this unit must satisfy all of the elements, performance criteria, foundation skills and range of conditions of this unit.

The person must read and extract information from different types of plans, building drawings and specifications for four different residential buildings.

The person must also source the plans, building drawings and specifications relating to each of the above buildings, and identify the information needed to respond to three routine workplace requests for information on each building.

In doing the above, the person must:

- identify different types of plans and drawings for residential buildings and their functions
- read and interpret plans, drawings and specifications for each residential building, including identifying key features, levels, contours, sections, service entry points, and site features
- check amendments to plans and drawings for each residential building
- identify symbols, terms and abbreviations used in the plans and drawings.

Knowledge Evidence

A person demonstrating competency in this unit must demonstrate knowledge of:

- building drawings, including:
 - drawing perspectives
 - features
 - scale

- symbols, terms and abbreviations used
- types of building drawings and their respective purposes
- plans relevant to residential buildings:
 - heritage and conservation overlays
 - landscaping and vegetation
 - locality
 - lot and common property survey plan
 - sites
 - strata plan
 - survey plan
- key requirements of federal, state or territory building and construction codes, standards and regulations relating to:
 - residential building materials
 - residential building styles.

Assessment Conditions

The following must be present and available to learners during assessment activities:

- equipment:
 - computer system to access online databases of residential building plans and drawings
- specifications:
 - plans, drawings and specifications for different styles of residential buildings
 - relevant codes, standards and regulations relating to the construction of residential buildings.

Assessor requirements

As a minimum, assessors must satisfy the assessor requirements in the *Standards for Registered Training Organisations (RTOs)* current at the time of assessment.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6f3f9672-30e8-4835-b348-205dfcf13d9b>

FWPCOT2242 Segregate and sort logs

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 3.0.

Application

This unit of competency describes the skills and knowledge required to segregate and sort logs in a commercial forest harvesting environment or a timber processing plant, in line with specified quality characteristics for the best end-usage.

The unit applies to individuals who segregate and sort logs at the roadside, landing area or timber mill. Operators generally work under broad direction and take responsibility for their work.

No occupational licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Core Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to segregate and sort logs	1.1 Review log product specifications for species, product usage and size in reference to the segregation and sorting of logs 1.2 Review the production plan, confirm its targets and assess wood flow requirements to ensure efficient operations and overall productivity 1.3 Confirm, identify and report health, safety, environmental and

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>heritage risks of operation in line with standard operating procedures and site safety and environmental management plan</p> <p>1.4 Apply risk control measures in line with standard operating procedures, site operational plan, legislative requirements and industry standards to eliminate or minimise risks</p> <p>1.5 Identify emergency plan procedures to follow in the event of an emergency</p> <p>1.6 Select appropriate log size measuring tools and calibration methods</p> <p>1.7 Calibrate log measuring tools to ensure accuracy of length and diameter measurements</p>
2. Segregate and sort logs	<p>2.1 Visually assess and measure logs for size, species and quality characteristics to determine their best end-use in line with product specifications and to identify logs which are to be recovered</p> <p>2.2 Mark and report logs that cannot be clearly and safely assessed</p> <p>2.3 Direct mechanical equipment to extract specified logs from the stack and segregate them by specified product usage</p> <p>2.4 Assist log positioning and segregation into end-use stacks to avoid log damage, provide stability, restrict height for efficient extraction and allow space for the conduct of other operations in line with planned worksite layout</p> <p>2.5 Ensure stacks are tagged for identification in line with industry standards and production plan requirements</p> <p>2.6 Record and report measurements and sorting outcomes</p>

Foundation Skills

This section describes those core and employment skills that are essential to performance and are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> read and understand standard operating procedures, site operational plan, site safety management plan, product specifications and industry standards for log segregation and presentation

Skill	Description
Writing	<ul style="list-style-type: none"> record information about logs that cannot be graded
Oral Communication	<ul style="list-style-type: none"> interact verbally with machine operators on site to create log stacks confirm how logs should be segregated and seek assistance where necessary use appropriate vocabulary including technical language directly relevant to role
Numeracy	<ul style="list-style-type: none"> count logs and measure log diameter and length
Navigate the world of work	<ul style="list-style-type: none"> understand main tasks, responsibilities and boundaries of own role calibrate and use log measuring tools according to workplace procedures
Interact with others	<ul style="list-style-type: none"> use modes of communication suitable to purpose to confirm and clarify understanding participate in conversations relevant to role by responding and explaining as required
Get the work done	<ul style="list-style-type: none"> plan and organise own activities and resources

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT2242 Segregate and sort logs	FWPCOT2223 Segregate and sort logs	<p>Significant changes to reflect industry requirements for a safe and appropriate operation. New PCs were added, most PCs were edited and PE and KE increased in content to map against the revised PCs.</p> <p>Additional foundation skills identified.</p> <p>Code change to reflect outcomes of unit.</p>	No equivalent unit

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT2242 Segregate and sort logs

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 3.0.

Performance Evidence

An individual demonstrating competency must satisfy all the elements and performance criteria of this unit. There must be evidence that, on at least one occasion, the individual has:

- safely and correctly assessed and measured logs for size, species and quality characteristics for specified product usage in line with a production plan
- checked risks associated to the operation and applied standard operating procedures
- used log measuring tools and methods to measure logs and log defects
- applied knowledge of log species, log quality characteristics and defects
- identified and assessed log defects
- assisted positioning and segregation of logs into end-use stacks for ensuring minimal log damage and efficient transportation and identification
- followed log product specifications and production plan requirements for sorting logs.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- information and requirements contained in log product specifications and a production plan
- health and operational hazards or risks related to log segregation and sorting operations and factors that can change or introduce new hazards
- industry-accepted work health and safety risk control measures, legal obligations of the current Work Health and Safety Acts or Occupational Health and Safety Acts and regulations and requirements of industry standards and/or codes of practice for log segregation and sorting operations as outlined in workplace procedures and production plan
- required emergency response procedure, including firefighting resources and emergency response
- industry-accepted warning signs, their correct positioning and procedures to maintain communication and work safety

- industry-accepted environmental control measures, restrictions, legal obligations of current Environment Protection Acts and regulations and requirements of industry standards and/or codes of practice for log segregation and sorting operations as outlined in workplace procedures and production plan
- log species, quality characteristics and log defects particular to the site and production system
- regional quality requirements for log products with particular end uses, markets, values
- maximum log damage or defect allowance and minimum quality allowance particular to a production system
- criteria for recycling and re-using logs with significant defects
- log measuring tools for length and diameter measurements
- methods for calibrating and verifying log measuring tools
- techniques and methods for measuring log diameter and length using standard and digital tools
- causes of manual length and diameter measurement error
- industry-accepted methods for product identification.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest harvesting site or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - logs for segregation and sorting
 - standard and digital log measuring tools
 - personal protective equipment
- specifications:
 - access to workplace policies and procedure which cover current Work Health and Safety Acts or Occupation Health and Safety Acts, regulations and related industry standards and codes of practice applicable to forest harvesting operations
 - access to workplace policies and procedure which cover current Environment Protection Acts, regulations and related industry standards and codes of practice applicable to forest harvesting operations
 - access to production plan, site operational plan and log product specifications
 - access to site emergency procedure
 - access to workplace standard operating procedure for log segregation and sorting.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3202 Navigate in remote or trackless areas

Modification History

Release	Comments
Release 2	This version released with FWP Forest and Wood Products Training Package Version 3.0.
Release 1	This version released with FWP Forest and Wood Products Training Package Version 2.0.

Application

This unit of competency describes the outcomes required to navigate in untracked, remote areas in situations where difficult environmental conditions and poor visibility are likely to occur. The unit includes interpretation and use of maps and other navigation aids.

The unit applies to a Forestry Worker, Plantation Worker, Forest Harvester, Harvesting Technical Forestry Technician, Tree Planter, Mobile Equipment Operator and Arboriculture Technician.

No licensing, legislative, regulatory, or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Forest Growing and Management

Harvesting and Haulage

Sawmilling and Processing

Elements and Performance Criteria

Element	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the range of conditions.</i>

1. Prepare for navigation	<p>1.1 Identify and gather information and relevant factors and check with appropriate personnel.</p> <p>1.2 Select suitable maps, equipment and navigation aids and check for accuracy, currency and operational effectiveness.</p> <p>1.3 Detect and correct faults or errors in maps and equipment.</p> <p>1.4 Establish communication with others in line with WHS and organisational requirements</p>
2. Plan the route	<p>2.1 Plan route in line with work instructions and WHS requirements.</p> <p>2.2 Examine maps to identify relevant symbols, information, navigation data and environmental requirements.</p> <p>2.3 Calculate accurate grid and magnetic bearings using maps and equipment in line with assignment instructions.</p> <p>2.4 Plan emergency exit routes and contingencies to combat other risks.</p>
3. Conduct navigation	<p>3.1 Undertake navigation in line with planned route and schedule.</p> <p>3.2 Orientate maps are correctly to surroundings in line with planned route.</p> <p>3.3 Use equipment and navigation aids in line with manufacturer recommendations.</p> <p>3.4 Navigate alternative routes to bypass obstacles and improve efficiency of course.</p> <p>3.5 Minimise impact on the environment as a result of navigation.</p> <p>3.6 Record and report navigation activities.</p>

Foundation Skills

This section describes those core and employment skills that are essential to performance and are not explicit in the performance criteria.

Numeracy skills to:	<ul style="list-style-type: none"> • interpret scales, symbols, grid references, distance and data included on maps and navigation equipment • estimate travel time and distances • locate own position on a map.
Planning and organising skills to:	<ul style="list-style-type: none"> • estimate resource and equipment requirements • effectively bypass obstacles.
Problem solving skills to:	<ul style="list-style-type: none"> • identify and solve problems with equipment and navigation route.

Range of Conditions

Not Applicable

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3202 Navigate in remote or trackless areas Release 2	FWPCOT3202 Navigate in remote or trackless areas Release 1	Minor typographical errors corrected	Equivalent unit

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3202 Navigate in remote or trackless areas

Modification History

Release	Comments
Release 2	This version released with FWP Forest and Wood Products Training Package Version 3.0.
Release 1	This version released with FWP Forest and Wood Products Training Package Version 2.0.

Performance Evidence

A person demonstrating competency in this unit must satisfy all of the elements, performance criteria and foundation skills of this unit. If a specific volume or frequency is not stated below, then evidence must be provided that the following requirements have been performed on at least one occasion:

- follow organisational policies and procedures for navigating in a remote or trackless area
- select, interpret, and use maps and other written and diagrammatic information for navigation
- use maps, compass and navigation aids to plan routes and navigate in remote or trackless area which must be either:
 - standard magnetic compass using latitude/longitude and Universal Transverse Mercator (UTM) coordinate systems
 - global positioning system (GPS)
 - cadastral maps (maps that show the boundaries and ownership of land parcels)
 - topographic maps
 - general maps
- plan and conduct an efficient navigation, effectively bypassing obstacles within designated timeframes
- maintain navigation tools and equipment
- establish and maintain effective communication with appropriate personnel as required
- record navigation activities.

Knowledge Evidence

A person competent in this unit must be able to demonstrate knowledge of:

- regulations, standards, codes of practice and established safe practices for navigating in a remote or trackless area

- environmental protection requirements, including the safe disposal of waste material and returning the environment to its original or near to original condition on completion of activity
- organisational and site standards, requirements, policies and procedures for navigating in remote or trackless areas
- factors that may affect navigation, including:
 - types of terrain and gradient
 - weather conditions
 - obstacles
 - distance
 - estimated travelling time
 - availability of resources, including water, rest stops, camp sites
 - access and exit routes
- use and features of various maps, images and charts including:
 - cadastral and topographic maps
 - charts
 - guide books
 - photographs and other digital imagery
 - sketches
 - diagrams
- representation of topographic features on maps and plans, including:
 - grid lines and numbers
 - contour lines
 - magnetic variation
 - scale
 - map legend
 - local features
 - markers and beacons
 - water depth
- common scales and reference information used on maps and plans
- features and uses of environmental navigation aids:
 - survey markers
 - track markers and beacons
 - signs
 - arrows
 - natural landmarks and reference points
- purpose, features and operation of navigation equipment, and procedures for their safe use and maintenance, including
 - global positioning system (GPS) device
 - magnetic compass, including adjustment for local magnetic variation
 - locator beacons

- personal protective equipment and clothing
- techniques for estimating distance travelled within a particular activity context
- established communication modes, methods and protocols
- procedures for recording and reporting workplace information.

Assessment Conditions

The following resources must be made available:

- site to navigate
- navigation equipment
- work order, workplace requirements and site standards for navigating in remote or trackless areas.
- communication devices.

Competency is to be assessed in the workplace or a simulated environment that accurately reflects performance in a real workplace setting.

Assessor requirements

Assessors must:

- hold the appropriate assessor competency standards as outlined in regulations; and
- be able to demonstrate vocational competencies at least to the level being assessed; and
- be able to demonstrate how they are continuing to develop their VET knowledge and skills as well as maintaining their industry currency and assessor competence.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3219 Produce standard truss or frame plans and details using computers

Modification History

Release	Comments
Release 2	This version released with FWP Forest and Wood Products Training Package Version 3.0.
Release 1	This version released with FWP Forest and Wood Products Training Package Version 2.0.

Application

This unit of competency describes the outcomes required to use computerised systems to produce standard truss or frame plans, including layout production, fabrication and installation instructions. Work is completed in a forest products factory setting.

The unit applies to Customer Service/Sales Assistant (retail or wholesale), Customer Service officer, Sales and Merchandising Team leader, Timber Advisor.

No licensing, legislative, regulatory, or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common technical

Elements and Performance Criteria

Element	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the range of conditions.</i>
1. Select software	1.1 Identify and interpret work order, review and evaluate

	<p>software options.</p> <p>1.2 Select appropriate software program to meet production outcomes.</p>
2. Interpret plans and loading conditions	<p>2.1 Interpret and assess plans, drawing views and notes; identify loading information and design requirements and restrictions.</p> <p>2.2 Obtain additional information and data from appropriate personnel and other sources.</p> <p>2.3 Create functional and pictorial image of structures, trusses and or frames based on design requirements.</p> <p>2.4 Refer design requirements outside software limitations to appropriate personnel for resolution.</p>
3. Test and select design options	<p>3.1 Transfer fixed design details to layout data in line with software requirements.</p> <p>3.2 Specify frame or truss types and select timber type and species in line with material suitability and availability.</p> <p>3.3 Set common industry spacing of frames, trusses and components to defined design structure in line with industry standards.</p> <p>3.4 Fix component sizes to clarify and confirm design options.</p> <p>3.5 Select layouts, spacing and sizing of individual structural members progressively in line with software requirements.</p> <p>3.6 Select, review and revise design details in line with work order.</p>
4. Produce layouts and cutting requirements	<p>4.1 Review design records for integrity, completeness and consistency in line with certifying authority standards.</p> <p>4.2 Produce structural layout drawings and truss or frame assembly drawings using appropriate software.</p> <p>4.3 Produce component cutting detail in line with production requirements and schedules.</p> <p>4.4 Prepare and document production and installation advice in line with organisational procedures and industry standards.</p> <p>4.5 Complete and maintain design records and documentation in line with organisational procedures.</p>

5. Provide advice on design and production issues	<p>5.1 Answer questions about designs and assembly requirements clearly and comprehensively.</p> <p>5.2 Use effective communication techniques to assist and develop production personnel.</p> <p>5.3 Provide alternative materials or sizes for components within design scope and production requirements.</p> <p>5.4 Discuss common site problems and examine and adopt prevention strategies to ensure future practice meets design requirements.</p>
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Foundation Skills

<i>This section describes those core and employment skills that are essential to performance and are not explicit in the performance criteria.</i>	
Numeracy skills to:	<ul style="list-style-type: none"> interpret numerical data from designs involving height, length, angles, shape, and load input complex numerical data into software systems for layout, spacing and dimensions of structural members.
Oral communication skills to:	<ul style="list-style-type: none"> ask detailed open and closed probe questions and actively listen to clarify contents of designs, plans, drawings and notes provide clear unambiguous information about designs and assembly requirements negotiate solutions to site installation problems.
Reading skills to:	<ul style="list-style-type: none"> interpret detailed and unfamiliar designs and technical notes.
Writing skills to:	<ul style="list-style-type: none"> input clear written text into software systems produce clear and detailed documents to support interpretation of drawings and assist with production and installation.
Planning and organising skills to:	<ul style="list-style-type: none"> plan and organise own work in logical sequence and manage own timing and productivity to complete plans, drawings and documents within deadlines.

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3219 Produce standard	FWPCOT3219 Produce standard truss	Updated unit sector information	Equivalent unit

Code and title current version	Code and title previous version	Comments	Equivalence status
truss or frame plans and details using computers Release 2	or frame plans and details using computers Release 1		

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3219 Produce standard truss or frame plans and details using computers

Modification History

Release	Comments
Release 2	This version released with FWP Forest and Wood Products Training Package Version 3.0.
Release 1	This version released with FWP Forest and Wood Products Training Package Version 2.0.

Performance Evidence

A person demonstrating competency in this unit must satisfy all of the elements, performance criteria and foundation skills of this unit. If a specific volume or frequency is not stated below, then evidence must be provided that the following requirements have been performed on at least one occasion:

- prepare and document computerised plans and details for manufactured timber products in line with an individual design and set of drawing views and notes
- produce computerised drawings, layouts and cutting requirements
- apply mathematical procedures
- develop and select framing layout options and detail framing design
- prepare a package of production and installation advice documents to support interpretation of plans and drawings.
-

Knowledge Evidence

A person competent in this unit must be able to demonstrate knowledge of:

- applicable building and structural regulations for standard timber wall frames, roof and floor trusses
- common industry terminology for all components of standard timber wall frames, roof and floor trusses
- common industry standard layouts, spacing and sizing dimensions of individual members for standard timber wall frames, roof and floor trusses
- relationship between component loads and supports and spans
- timber species and types that are suitable for the manufacture of standard timber wall frames, roof and floor trusses
- industry software:

- functions and capabilities
- drawing types that can be produced
- design limitations
- methods to input and amend design factors and other data
- methods used to produce structural layout drawings, assembly drawings and component cutting detail
- methods for storing and retrieving drawings and other data
- industry and specific organisational:
 - processes for producing computerised plans and details for standard timber wall frames, roof and floor trusses
 - formats for and inclusions of documents providing production and installation advice
- organisational procedures for preparing and documenting computerised plans and details for standard timber wall frames, roof and floor trusses.

Assessment Conditions

The following resources must be made available:

- computers, keyboards and industry current software programs used to produce plans and details for standard timber wall frames, roof and floor trusses
- designs, plans, drawing views and notes for standard timber wall frames, roof and floor trusses on which to base plan and details
- template documents for developing production and installation advice
- organisational procedures for preparing and documenting computerised plans and details for standard timber wall frames, roof and floor trusses.

Competency is to be assessed in the workplace or a simulated environment that accurately reflects performance in a real workplace setting.

Assessor requirements

Assessors must:

- hold the appropriate assessor competency standards as outlined in regulations; and
- be able to demonstrate vocational competencies at least to the level being assessed; and
- be able to demonstrate how they are continuing to develop their VET knowledge and skills as well as maintaining their industry currency and assessor competence.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT3270 Grade and mark logs

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 3.0

Application

This unit of competency describes the skills and knowledge required to visually assess and measure logs in a commercial forest harvesting environment, to determine the best end-use of individual logs and mark products for identification.

The unit applies to individuals who grade and mark logs at roadside, landing area or timber mill. Operators generally work under broad direction and take responsibility for their work.

No occupational licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Core Technical (COT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to grade and mark logs	1.1 Review log product specifications for species, product usage and size in reference to the grading and marking of logs 1.2 Review production plan, confirm its targets and assess wood flow requirements to ensure efficient operations and overall productivity 1.3 Confirm, identify and report health, safety, environmental and heritage risks of operation in line with standard operating procedures

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>and site safety and environmental management plan</p> <p>1.4 Apply risk control measures in line with standard operating procedures, site operational plan, legislative requirements and industry standards to eliminate or minimise risks</p> <p>1.5 Identify emergency plan procedures to follow in the event of an emergency</p> <p>1.6 Select appropriate log size measuring tools and calibration methods</p> <p>1.7 Calibrate log measuring tools to ensure accuracy of length and diameter measurements</p>
2. Grade and mark logs	<p>2.1 Visually assess logs for species and quality characteristics to determine their best end-use in line with product specifications</p> <p>2.2 Measure logs and defects for size</p> <p>2.3 Grade logs and determine logs which are to be recovered</p> <p>2.4 Mark graded logs for product identification in line with industry standards</p> <p>2.5 Direct mechanical equipment to conduct log segregation and stacking into product groups</p> <p>2.6 Tag stacks for identification in line with industry standards and production plan requirements for an optimum transport and logistics cycle time</p>
3. Verify grading and marking logs	<p>3.1 Conduct size accuracy checks by using standard or digital measuring tools to verify that graded logs meet length and diameter specifications and remediate errors</p> <p>3.2 Verify that marking and tagging has been conducted correctly and display required information</p> <p>3.2 Mark and report logs that cannot be clearly or safely evaluated for size or quality characteristics</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> read and understand production, safety and environmental management plans, product specifications and industry standards for grading logs
Writing	<ul style="list-style-type: none"> record information about logs
Oral Communication	<ul style="list-style-type: none"> interact verbally with machine operators on site to create log stacks use appropriate vocabulary including technical language directly relevant to role
Numeracy	<ul style="list-style-type: none"> count logs and measure log diameter and length
Navigate the world of work	<ul style="list-style-type: none"> understand main tasks, responsibilities and boundaries of own role calibrate and use log measuring tools according to workplace procedures
Interact with others	<ul style="list-style-type: none"> report log grading and safety information to relevant personnel participate in conversations relevant to role by responding and explaining as required
Get the work done	<ul style="list-style-type: none"> recognise and respond to routine problems plan and organise own work activities and resources

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3270 Grade and mark logs	FWPCOT3223 Grade and mark logs	<p>Significant changes to reflect industry requirements for a safe and appropriate operation. New PCs were added, most PCs were edited and PE and KE increased in content to map against the revised PCs.</p> <p>Additional foundation skills identified.</p> <p>Code change to reflect outcomes of unit.</p>	No equivalent unit

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3270 Grade and mark logs

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 3.0

Performance Evidence

An individual demonstrating competency must satisfy all the elements and performance criteria of this unit. There must be evidence that, on at least one occasion, the individual has:

- safely and correctly assessed, measured, graded and marked logs for segregation into product groups in line with specified product best-usage and production plan
- checked risk associated to the operation and applied standard operating procedures
- used log measuring tools and methods to measure logs and log defects
- applied knowledge of log species, log quality characteristics and defects to grade logs
- identified and assessed log defects
- followed log product specifications and production plan requirements for grading and marking logs.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- information and requirements contained in log product specifications and a production plan
- health and operational hazards or risks related to log grading and marking operations and factors that can change or introduce new hazards
- industry-accepted work health and safety risk control measures, legal obligations of the current Work Health and Safety Acts or Occupational Health and Safety Acts and regulations and requirements of industry standards and/or codes of practice for log grading and marking operations as outlined in workplace procedures and production plan
- industry-accepted warning signs, their correct positioning and procedures to maintain communication and work safety
- required emergency response procedure, including firefighting resources and emergency response

- industry-accepted environmental control measures, restrictions, legal obligations of the current Environment Protection Acts and regulations and requirements of industry standards and/or codes of practice for log grading and marking operations as outlined in workplace procedures and production plan
- log species, quality characteristics and defects particular to the site and production system
- regional quality requirements for log products with particular end uses, markets and values
- maximum log damage or defect allowance and minimum quality allowance particular to a production system
- criteria for recycling and re-using logs with significant defects
- log measuring tools for length and diameter measurements
- methods for calibrating and verifying log measuring tools
- techniques and methods for measuring log diameter, length and defects using standard and digital tools
- causes of manual length and diameter measurement error
- industry-accepted methods for product identification.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest harvesting site or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - logs for grading and marking
 - standard and digital log measuring tools
 - personal protective equipment required for grading and marking logs
- specifications:
 - access to workplace policies and procedures which cover current Work Health and Safety Acts or Occupation Health and Safety Acts, regulations and related industry standards and codes of practice applicable to forest harvesting operations
 - access to workplace policies and procedure which cover current Environment Protection Acts, regulations and related industry standards and codes of practice applicable to forest harvesting operations
 - access to site operational plan, production plan and log product specifications
 - access to site emergency procedure
 - access to workplace standard operating procedure for log segregation and sorting.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT4201 Produce complex truss and frame plans and details using computers

Modification History

Release	Comment
1	Replaces superseded equivalent FPICOT4201B Produce complex truss and frame plans and details using computers, which was first released with FPI11 Forest and Forest Products Training Package Version 2.2. This is the first release of this unit in the new standards format.

Application

This unit of competency describes the outcomes required to use computerised systems to produce complex truss or frame plans, including layout production, fabrication and installation instructions. Work is completed in a forest and wood products office setting.

The unit applies to a designer or developer of truss and frame plans.

No licensing, legislative, regulatory, or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the range of conditions.</i>

ELEMENTS	PERFORMANCE CRITERIA
1. Interpret plans and loading conditions	<p>1.1 Interpret and assess plans, drawing views and notes; identify loading information, design requirements and restrictions.</p> <p>1.2 Obtain additional information and data from appropriate personnel or sources.</p> <p>1.3 Create functional and pictorial image of structure, trusses or frames based on design requirements.</p> <p>1.4 Refer design requirements outside software limitations to appropriate personnel for resolution.</p>
2. Test and select design options	<p>2.1 Transfer fixed design details to layout data in line with software requirements.</p> <p>2.2 Specify frame or truss design types, and select timber type and species in line with material suitability and availability.</p> <p>2.3 Set common industry spacing of frames, trusses and their components to defined design structure in line with industry standards.</p> <p>2.4 Fix component sizes to clarify and firm design options.</p> <p>2.5 Select layouts, spacing and sizing of individual structural members progressively in line with software requirements.</p> <p>2.6 Select, review and revise design details in line with work order.</p>
3. Produce layouts and cutting requirements	<p>3.1 Review design records for design integrity, completeness and consistency in line with certifying authority standards.</p> <p>3.2 Produce structure layout drawings and truss or frame assembly drawings using appropriate software.</p> <p>3.3 Produce component cutting detail in line with production requirements and schedules.</p> <p>3.4 Prepare and document production and installation advice in line with organisational procedures and industry standards.</p> <p>3.5 Complete and maintain design records and documentation in line with organisational procedures.</p>
4. Provide advice on design and production issues	<p>4.1 Answer questions about designs and assembly requirements clearly and comprehensively.</p> <p>4.2 Use effective communication techniques to assist and develop production personnel.</p> <p>4.3 Provide alternative materials and sizes for components within design scope and production requirements.</p> <p>4.4 Discuss common site problems and select appropriate prevention</p>

ELEMENTS	PERFORMANCE CRITERIA
	strategies to ensure future practice meets design requirements.

Foundation Skills

This section describes those core and employment skills that are essential to performance and are not explicit in the performance criteria.

Numeracy skills to:	<ul style="list-style-type: none"> interpret numerical data from designs involving height, length, angles, shape, and load input complex numerical data into software systems for layout, spacing and dimensions of structural members.
Oral communication skills to:	<ul style="list-style-type: none"> ask detailed open and closed probe questions and actively listen to clarify contents of designs, plans, drawings and notes provide clear unambiguous information about designs and assembly requirements negotiate solutions to site installation problems.
Reading skills to:	<ul style="list-style-type: none"> interpret detailed and unfamiliar designs and technical notes.
Writing skills to:	<ul style="list-style-type: none"> input clear written text into software systems produce clear and detailed documents to support interpretation of drawings and assist with production and installation.
Planning and organising skills to:	<ul style="list-style-type: none"> plan and organise own work in logical sequence and manage own timing and productivity to complete plans, drawings and documents within deadlines.

Range of Conditions

Not Applicable

Unit Mapping Information

FPICOT4201B Produce complex truss and frame plans and details using computers

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT4201 Produce complex truss and frame plans and details using computers

Modification History

Release	Comment
1	<p>Replaces equivalent unit FPICOT4201B Produce complex truss and frame plans and details using computers, which was first released with FPI11 Forest and Forest Products Training Package Version 2.2. This is the first release of this unit in the new standards format.</p> <p>Assessment requirements now specify the performance and knowledge evidence, as well as assessment conditions for this unit of competency. These sections simplify and replace components used in the previous unit format, including 'Required Skills and Knowledge, Evidence Guide and Range Statement</p>

Performance Evidence

A person demonstrating competency in this unit must satisfy all of the elements, performance criteria and foundation skills of this unit. If a specific volume or frequency is not stated below, then evidence must be provided that the following requirements have been performed on at least one occasion:

- prepare and document computerised plans and details of manufactured timber products in line with an individual design and set of drawing views and notes using appropriate software, systems and techniques
- produce component cutting details
- prepare a package of production and installation advice documents to support interpretation of plans and drawings.

Knowledge Evidence

A person competent in this unit must be able to demonstrate knowledge of:

- computer software and hardware used to produce complex truss and frame plans and details including:
 - system functions and capabilities
 - available drawings
 - design limitations
 - methods to input and amend design factors and other data

- methods used to produce structural layout drawings, assembly drawings and component cutting detail
- methods to store and retrieve drawings and other data
- building and structural regulations for complex timber wall frames, roof and floor trusses
- common industry terminology for all components of complex timber wall frames, roof and floor trusses
- common industry standard layouts, spacing and sizing dimensions of individual members for complex timber wall frames, roof and floor trusses
- relationship between component loads and supports and spans, including
 - details defining mass loads and externally applied loads (wind, surrounding structures, common or special building usage)
 - dimensions defining geometry and loading of individual structural members
- timber species and types that are suitable for the manufacture of complex timber wall frames, roof and floor trusses
- industry and specific organisational:
- processes for producing computerised plans and details for complex timber wall frames, roof and floor trusses
- formats for and inclusions of documents providing production and installation advice.

Assessment Conditions

The following resources must be made available:

- computers, keyboards and industry current software programs used to produce plans and details for complex trusses and frames
- designs, plans, drawing views and notes for complex timber wall frames, roof and floor trusses on which to base plan and details
- template documents for developing production and installation advice
- organisational procedures for preparing and documenting computerised plans and details for complex timber wall frames, roof and floor trusses.

Competency is to be assessed in the workplace or a simulated environment that accurately reflects performance in a real workplace setting.

Assessor requirements

Assessors must:

- hold the appropriate assessor competency standards as outlined in regulations; and
- be able to demonstrate vocational competencies at least to the level being assessed; and
- be able to demonstrate how they are continuing to develop their VET knowledge and skills as well as maintaining their industry currency and assessor competence.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPCOT6210 Develop engineered wood products to meet energy efficient building design needs

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 4.0.

Application

This unit of competency describes the skills and knowledge required to research and develop engineered wood products to meet the requirements of energy efficient design for residential buildings. It requires high-level understanding of residential building design, building codes and engineered timber design and practice.

The unit applies to individuals who work as designers (manufacturing and engineered wood products) and senior managers in a timber and wood products production environment. They generally demonstrate autonomy, judgement and defined responsibility in known or changing contexts and within broad but established parameters.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Common Technical

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Explore commercial opportunities for engineered wood products	1.1 Review National Construction Code guidelines and standards relating to climate zones and energy efficiency measures 1.2 Research and evaluate existing information to inform new product development 1.3 Identify gaps in the current range of engineered wood products for new products or concepts 1.4 Complete a market analysis using appropriate information sources to determine design and production requirements 1.5 Develop preliminary product concept according to research findings 1.6 Consult relevant stakeholders on broad parameters for developing a product that meets the market need
2. Formulate design concept for products	2.1 Generate ideas for product style to complement design concepts and production requirements 2.2 Use appropriate documentation methods to produce preliminary representation or prototyping of product 2.3 Consult with stakeholders to review and critique design concepts according to production requirements 2.4 Review design concepts to ensure energy efficiency is proven to allow project progression 2.5 Develop a business case for realising design including a full cost-benefit analysis 2.6 Obtain required approvals to progress product development according to production requirements
3. Develop the product to an operational level	3.1 Develop and test product according to design concepts 3.2 Align product energy efficiency requirements to market analysis 3.3 Implement certification and compliance processes for engineered product and production system 3.4 Develop detailed implementation specifications and present to relevant stakeholders for approval and funding 3.5 Select and organise production resources according to design specifications 3.6 Design quality assurance system according to workplace procedures

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	3.7 Develop and document safe operating procedures for production processes

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Interpret complex and sometimes unfamiliar information in building codes, guidelines and standards
Oral communication	<ul style="list-style-type: none"> Hold high-level consultative discussions to present abstract ideas and generate feedback and ideas on design concepts Influence and negotiate desired outcomes with stakeholders
Numeracy	<ul style="list-style-type: none"> Interpret complex energy efficiency ratings in codes, and complete complex calculations for designs Complete complex calculations for cost-benefit analysis
Navigate the world of work	<ul style="list-style-type: none"> Work independently and collectively within broad parameters, with a strong sense of responsibility and ownership of goals, plans, decisions and outcomes
Interact with others	<ul style="list-style-type: none"> Identify the perspectives of others as part of work role
Get the work done	<ul style="list-style-type: none"> Use analytical processes, establishing criteria for deciding between options and seeking input and advice from others before taking action when necessary

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT6210 Develop engineered wood products to meet energy efficient building design needs	FWPCOT6203 Develop engineered timber products to meet energy efficient building design needs	Updated industry terminology, the range of products in performance evidence and foundation skills; clarified intent of the unit and assessment requirements; changed unit title and code for compliance and consistency with the updates.	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT6210 Develop engineered wood products to meet energy efficient building design needs

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 4.0.

Performance Evidence

An individual demonstrating competency in this unit must satisfy all of the elements and performance criteria of this unit. There must be evidence that the individual has:

- developed two designs for one or more of the following types of engineered wood products, from initial concepts through to operational level, to meet the requirements of energy efficiency performance for residential buildings:
 - laminated beams
 - laminated veneer lumber
 - plywood
 - chipboard
 - hardboard
 - medium density fibreboard
 - oriented strand board
 - laminated or engineered flooring
 - glued laminated timber (glulam)
 - cross-laminated timber (CLT).

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- purpose and key content of the following codes and standards:
 - National Construction Code guidelines and standards for climate zones and energy efficiency measures
 - AS/NZ Standards associated with engineered wood products and associated design and construction
 - forest certification and Chain of Custody standards
- key components of market analysis, including:

- need
- placement
- financial certainty
- volume
- market issues relevant to engineered wood products and climate zones and applications
- theory underpinning development of R-values
- timber engineering design principles for energy efficient residential constructions
- characteristics of a range of timber species and associated wood-based products, their durability and serviceability
- key features of product development stages relevant to engineered wood products, including:
 - prototyping
 - testing
 - acquiring and commencing certification
 - gaining approval for infrastructure development
 - establishing production methods and procedures
- project management processes and tools for developing engineered wood products, including:
 - quality management systems
 - risk assessment systems
 - cost-benefit analysis tools
 - safe operating procedures for production processes
- purpose, format and common contents of business cases for realising designs, including:
 - capital cost
 - material
 - labour
 - design expenses
 - overheads
 - margin
 - running cost
 - lifecycle analysis
 - market uptake
 - discount and internal rate of return on investment
 - other opportunity cost analysis
- system functions and capabilities of house energy rating software and associated protocols for use.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:

- skills must be demonstrated in an environment that accurately reflects workplace conditions
- resources, equipment and materials:
 - computers, keyboards, printers and software used to document business case, design specifications and safe operating procedures
- specifications:
 - documents and proformas commonly used for developing business cases and operating procedures for production processes.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPHAR3223 Use on-board computer systems for single grip harvester

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 3.0.

Application

This unit of competency describes the skills and knowledge required to use on-board computer technology and software for single grip harvesters, to achieve maximum value recovery in a commercial forest harvesting environment.

The unit applies to individuals who work as harvester operators. Operators generally work under broad direction to complete routine activities related to harvesting operations and take responsibility for their work.

No occupational licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Harvesting (HAR)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Start up and shut down the on-board computer	<p>1.1 Start up the on-board computer and respond to display prompts by pressing the appropriate buttons</p> <p>1.2 Edit settings in the setting mode to update information about site identifier (ID) fields, operator and the start and end of a shift</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.3 Use mouse buttons and keyboard to shut down the measurement system and computer</p> <p>1.4 Identify on window screen that Global Positioning System (GPS) is active, to ensure it runs correctly during the operation, and report faults to appropriate personnel in line with workplace procedures</p>
2. Reload or create a felling site file	<p>2.1 Find existing felling site file by using the software menu and sub-menus to reload and activate cutting instruction files</p> <p>2.2 Create a new felling site file when moving machine to a new site by loading a new cutting instruction file from a data storage device or computer hard drive and following display prompts to add site information and turn on settings for quality grade buttons</p> <p>2.3 Assign quality grade to buttons on the joystick keypad</p> <p>2.4 Open and edit cutting instruction file to adjust parameters on length and diameter, when instructed to by the forest management company</p> <p>2.5 Review cutting instruction file and settings and report any identified error</p>
3. Process trees using on-board computer system	<p>3.1 Check that correct cutting instruction file is uploaded at the start of harvesting at an existing or a new felling site</p> <p>3.2 Use appropriate methods to reset the harvesting head length counter to prevent loss of log volume or value</p> <p>3.3 Upload, edit and save harvester settings and parameters for feeding and sawing by using the software's menus, files and fields</p> <p>3.4 Select and use harvester controls and quality buttons and apply knowledge of species and quality characteristics, to process trees into the highest value combination, in line with the log cutting instructions</p> <p>3.5 Override on-board computer settings, as necessary, to produce length results based on actual stem quality and potential or actual damage</p> <p>3.6 Use on-board computer settings to adjust and monitor grapple or delimb arm pressures</p> <p>3.7 Adjust the settings of diameter potentiometer or encoder, by using the software's diagnostic menu</p> <p>3.8 Conduct accurate calibrations of harvesting heads as required by the forest management company to ensure that processed logs are</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	within permissible error limits
4. Conduct quality control audits	<p>4.1 Conduct technical inspections on harvesting heads to check for wear and faults of measuring mechanisms and take corrective measures</p> <p>4.2 Conduct length and diameter accuracy checks in line with the frequency outlined in manufacturers' manual or prescribed by the forest management company and by using standard or electronic equipment to verify processed logs against cutting instructions and remediate errors</p>
5. Store, access and retrieve production and calibration data	<p>5.1 Save production and calibration files on a data storage device by using the software menu, sub-menus and display prompts</p> <p>5.2 Transfer files between computers or via mobile devices and applications in line with workplace procedures and within required timeframes</p> <p>5.3 Discuss and resolve data and file matters with appropriate personnel in line with workplace procedures</p> <p>5.4 Identify and report faults and errors related to the on-board computer system in line with workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> read user manual for machine's on-board computer system
Writing	<ul style="list-style-type: none"> record log length and diameter measurements
Oral Communication	<ul style="list-style-type: none"> interact verbally and non-verbally with technical personnel using communication means to remediate errors or resolve matters about electronic files and data use appropriate vocabulary including technical language directly relevant to role
Numeracy	<ul style="list-style-type: none"> interpret file variables including length, diameter and product

Skill	Description
	quality <ul style="list-style-type: none"> • apply methods to measure log length and diameters • interpret instruments and data recording equipment
Navigate the world of work	<ul style="list-style-type: none"> • understand main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> • communicate and report operational task and safety information to relevant personnel • participate in conversations relevant to role by responding and explaining as required
Get the work done	<ul style="list-style-type: none"> • recognise and respond to routine problems • plan and organise own work activities and resources

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPHAR3223 Use on-board computer systems for single grip harvester	Nil	New unit	No equivalent unit

Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWP HAR3223 Use on-board computer systems for single grip harvester

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 3.0.

Performance Evidence

An individual demonstrating competency must satisfy all the elements and performance criteria of this unit. There must be evidence that, on at least one occasion, the individual has:

- used on-board computer system to process and mark logs safely and effectively in line with the log cutting instructions
- reloaded and/or created a felling site file in the cutting instruction file
- assigned log grades to buttons on the joystick keypad
- reset the harvesting head length counter
- uploaded, edited and saved harvester settings and parameters for feeding and sawing
- adjusted settings and monitored grapple or delimb arm pressures
- edited the diameter potentiometer' settings
- applied knowledge of species and quality characteristics to process trees and overridden the on-board computer settings to process trees into the highest value combination
- conducted accurate calibrations of harvesting heads
- conducted length and diameter accuracy checks of processed logs against cutting instructions
- saved production files on a data storage device and transferred files either manually or via mobile devices.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- methods to correctly turn on/off the on-board computer system
- using the on-board computer keyboard and mouse or touchscreen
- navigating on-board computer menus, sub-menus and fields using cutting instructions, calibration and production files
- loading new cutting instruction files and reloading inactive files
- fields and data inputs required to start a processing operation
- editing cutting instruction file and restrictions

- saving production, control measurement and calibration files and transferring files using a data storage system or via mobile app
- fields and information contained in the cutting instruction file including matrix displays, maximum damage and minimum quality allowances for log grades and bark function
- values in the price matrix and how they affect the performance of the cutting instruction file
- computer methods to adjust feed performance, feed ramping, grapple or delimb arm pressures and diameter potentiometer
- harvesting head settings
- settings to program quality grade buttons on the joystick keypad
- using harvester's controls and quality buttons correctly
- methods to override the computer and limitations or restrictions as prescribed by forest management company to prevent issues with the software and the machine
- length and diameter measuring system fitted on harvesting heads
- on-board computer methods to calculate a diameter at a given distance along the stem
- methods for calibrating the measuring system of harvesting head for length and diameter
- signs of wear and faults to harvester head mechanisms
- effects of worn mechanical linkages on the length and diameter measuring mechanisms
- methods to conduct and record length and diameter accuracy checks and frequency of measurements
- methods for calibrating and verifying measuring tools for length and diameter including tapes and callipers
- causes of manual and mechanical length and diameter measurement error
- methods to reset the harvesting head's length counter
- methods to identify faults related to the on-board computer system and GPS.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a logging site or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - single grip harvester equipped with on-board computer system and GPS
 - standard and digital measuring tools for calibration
 - data storage system or mobile system/app for the purpose of saving and transferring production files
 - personal protective equipment required in harvesting operations
- specifications:
 - access to user manual for on-board computer system
 - access to sample cutting instruction, calibration and production files

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPHAR3224 Operate crawler tractor

Modification History

Release	Comments
Release 2	This version released with FWP Forest and Wood Products Training Package Version 4.0.
Release 1	This version released with FWP Forest and Wood Products Training Package Version 3.0.

Application

This unit of competency describes the skills and knowledge required to operate a crawler tractor for log production and use optimised production processes in a commercial forest harvesting environment. The main job functions are to move stems and/or logs from felling site to roadside or landing area. Other functions include product segregation, stacking, and removal of slash. Activities are to be conducted safely and effectively.

The unit applies to individuals who work as crawler tractor operators in small or larger harvesting crews. Operators generally work under broad direction to complete routine activities related to crawler tractor operations and take responsibility for their work.

No occupational licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Harvesting (HAR)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare to	1.1 Review production plan, confirm its targets for felling and processing and assess wood flow requirements to ensure efficient

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
operate a crawler tractor	<p>machine operation and overall productivity</p> <p>1.2 Confirm type, size and quantity of stems and/or logs to be moved with crawler tractor to ensure that loads and machine are in line with safe working load requirements and industry standards for operations</p> <p>1.3 Confirm, identify and report health, safety, environmental and heritage risks of operation, in line with standard operating procedures and site safety and environmental management plans</p> <p>1.4 Apply risk control measures in line with standard operating procedures, site operational plan, legislative requirements and industry standards to eliminate or minimise risks</p> <p>1.5 Identify emergency plan procedures to follow in the event of an emergency</p> <p>1.6 Use production plan to identify location of extraction routes, entry points and directions to the landing for efficient extraction of logs and minimum interference with other forestry operations</p> <p>1.7 Assess terrain characteristics to establish machine stability</p> <p>1.8 Carry out pre-operational checks on machine in line with workplace procedures or manufacturers' recommendations to ensure optimal production performance and operational effectiveness</p>
2. Operate crawler tractor	<p>2.1 Use industry-accepted warning signs, vehicle-to-vehicle communication systems and procedures to maintain communication and workplace safety during operation</p> <p>2.2 Select products, stems and/or logs or slash to be moved based on their position, location and size</p> <p>2.3 Position crawler tractor for stability and safe access to products or slash by adjusting the technique in response to terrain conditions</p> <p>2.4 Carry out hooking-on and winching techniques or use cabin controls to grapple products or slash avoiding damage to the products in line with the production plan requirements</p> <p>2.5 Drive the machine to move products or slash to the roadside or landing area to achieve optimum efficiency and minimise breakage and damage to products, standing trees and surrounding environment in line with the production plan requirements</p> <p>2.6 Unhook and position or construct stacks of stems, logs or slash at the roadside or landing area to avoid product damage, provide stability, restrict height for efficient extraction and facilitate safe access and conduct of other landing and equipment operations in line</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	with worksite layout and production plan requirements 2.7 Recover all merchantable product or slash from site in line with the production plan requirements
3. Carry out machine operator maintenance	3.1 Park, shut-down, de-energise and isolate crawler tractor in line with workplace procedures or manufacturers' recommendations 3.2 Clean, check and carry out routine maintenance activities on crawler tractor and equipment to maintain optimum operational performance 3.3 Identify and report machine faults, malfunctions or problems in line with workplace procedures or manufacturers' recommendations 3.4 Clean work area of all debris and waste resulting from crawler tractor operation and dispose of or recycle waste materials in line with site environmental management plan 3.5 Record crawler tractor operations and maintenance activities

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Read production plans, site safety and environmental management plans in a forest harvesting environment Read standard operating procedures and/or manufacturers' instructions for the operation of forest harvesting machinery
Writing	<ul style="list-style-type: none"> Record operation, production and machine maintenance on paper based or electronic media
Oral Communication	<ul style="list-style-type: none"> Interact verbally and non-verbally using agreed systems and processes to communicate with others on site to ensure safe and effective machine operations Use appropriate vocabulary including technical language directly relevant to role
Numeracy	<ul style="list-style-type: none"> Interpret gauges relevant to safe operation of harvesting machinery Determine construction of stable log stack Estimate the weight of logs to determine loading requirements and

Skill	Description
	compliance to machine specifications
Navigate the world of work	<ul style="list-style-type: none"> Understand main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> Use modes of communication suitable to purpose to confirm and clarify understanding Communicate and report operational and safety information to on-site personnel
Get the work done	<ul style="list-style-type: none"> Recognise and respond to routine problems Plan and organise own work activities and resources

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPHAR3224 Operate crawler tractor Release 2	FWPHAR3224 Operate crawler tractor Release 1	Amended typographical error in Application	Equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWP HAR3224 Operate crawler tractor

Modification History

Release	Comments
Release 2	This version released with FWP Forest and Wood Products Training Package Version 4.0.
Release 1	This version released with FWP Forest and Wood Products Training Package Version 3.0.

Performance Evidence

An individual demonstrating competency must satisfy all the elements and performance criteria of this unit. There must be evidence that, on at least one occasion, the individual has:

- planned, prepared and safely and effectively operated a crawler tractor to move products and/or slash in line with a production plan
- checked risks associated with the operation and applied standard operating procedures
- followed production plan requirements and site safety and environmental management plan
- determined suitability and stability of crawler tractor for operation and safe working load limits by considering machine and equipment specifications, terrain characteristics and type and size of stems and/or logs to be moved
- adjusted machine driving and positioning technique in response to terrain conditions
- applied machine manipulation techniques to move products and/or slash and minimise damage to products, machine and surrounding environment in line with the production plan requirements
- placed and stacked products for efficient extraction in line with the production plan requirements
- communicated effectively with others in the work area
- shut down, de-energised and isolated machine in line with workplace procedures and operator's manual
- carried out routine maintenance on crawler tractor parts.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- information and requirements contained in a production plan and site safety and environmental management plans

- hazardous or safe working zones in forest harvesting operations
- health and operational hazards or risks related to crawler tractor operations and factors that can change or introduce new hazards
- industry-accepted work health and safety risk control measures, legal obligations of the current Work Health and Safety Acts or Occupational Health and Safety Acts and regulations, and requirements of industry standards and/or codes of practice for crawler tractor operations as outlined in workplace procedures and production plan
- industry-accepted warning signs, their correct positioning, vehicle-to-vehicle communication systems and procedures to maintain communication and work safety during crawler tractor operations
- required emergency response procedure including firefighting resources and emergency response
- potential impacts of crawler tractor operations on onsite and offsite environmental values including cultural heritage, flora, fauna, ground compaction, water contamination and soil erosion
- industry-accepted environmental control measures, environmental restrictions, legal obligations of the current Environment Protection Acts and regulations and requirements of industry standards and/or codes of practice for crawler tractor operations as outlined in workplace procedures and production plan
- landings usage
- typical location of loading and/or landing site
- tree felling patterns
- extraction methods
- wood flow requirements and extraction and production bottlenecks particular to a production system
- techniques particular to a production system to avoid mechanical damage to stems and logs during moving and stacking; position and stack logs for efficient extraction
- effects of weather on ground conditions
- effects of slope and terrain conditions on crawler tractor stability and operation
- machine specifications, restrictions, applications and safe operating procedures, including stability and operation in different terrain conditions, slopes and road types and methods to shut down, de-energise and isolate the machine as outlined in workplace procedures or operator's manual
- using machine cabin controls
- techniques for safe and efficient driving of crawler tractor
- methods to conduct machine pre-operational checks and detect faults as outlined in workplace procedures or operator's manual
- location of machine's major mechanical systems and parts of the machine in which energy is stored as outlined in operator manuals for safe and efficient conduct of the machine operator maintenance tasks
- machine maintenance and servicing requirements as outlined in user and operator manuals
- industry-accepted reporting requirements regarding site, incident and hazard, personal reporting, check-in, production, machine maintenance and block completion.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest harvesting site or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - crawler tractor
 - suitable stems/logs and/or slash to be moved
 - personal protective equipment required in harvesting operations
 - vehicle-to-vehicle communication system
- specifications:
 - access to workplace policies and procedures which cover current Work Health and Safety Acts or Occupation Health and Safety Acts, regulations and related industry standards and codes of practice applicable to forest harvesting operations
 - access to workplace policies and procedures which cover current Environment Protection Acts, regulations and related industry standards and codes of practice applicable to forest harvesting operations
 - access to production plan and site safety and environmental management plans
 - access to site emergency procedure
 - access to workplace standard operating procedures for single grip harvester or operator's manual
 - access to user manual for vehicle-to-vehicle communication system

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPHAR3225 Operate excavator with log grapple

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 3.0.

Application

This unit of competency describes the skills and knowledge required to operate an excavator with log grapple for log production and use optimised production processes in a commercial forest harvesting environment. The main job functions are to load logs on trucks and/or sort log stacks at roadside or landing area for transportation. Other functions include slash removal. Activities are to be conducted safely and efficiently.

The unit applies to individuals who work as excavator with log grapple operators in small or larger harvesting crews. Operators generally work under broad direction to complete routine activities related to crawler tractor operations and take responsibility for their work.

This unit does not apply to excavator operations that undertake dogging, rigging and/or scaffolding work.

No occupational licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Harvesting (HAR)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare to operate an excavator	1.1 Review production plan, confirm its targets for felling and processing and assess wood flow requirements to ensure efficient

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
with log grapple	<p>machine operations and overall productivity</p> <p>1.2 Confirm type, size and quantity of logs or slash to be grappled, to ensure that loads and machine are in line with safe working requirements and industry standards for operations</p> <p>1.3 Confirm, identify and report health, safety, environmental and heritage risks of operation in line with standard operating procedures and site safety and environmental management plans</p> <p>1.4 Apply risk control measures in line with standard operating procedures, site operational plan, legislative requirements and industry standards to eliminate or minimise risks</p> <p>1.5 Identify emergency plan procedures to follow in the event of an emergency</p> <p>1.6 Use production plan to identify layout of landing or roadside area and access to logs for efficient process and minimum interference with other forestry operations</p> <p>1.7 Assess terrain characteristics to establish machine stability</p> <p>1.8 Carry out pre-operational checks on machine to ensure optimal production performance and operational effectiveness in line with workplace procedures or manufacturers' recommendations</p>
2. Operate excavator with log grapple to load log trucks and/or sort log stacks	<p>2.1 Use industry-accepted warning signs, vehicle-to-vehicle communication systems and procedures to maintain communication and workplace safety during operation</p> <p>2.2 Position excavator with log grapple for stability and safe access to logs by adjusting the technique in response to terrain conditions</p> <p>2.3 Use machine cabin controls to grapple bunches of logs / slash and load trucks and/or sort stacks and ensure bunch size is suited to the log grapple capacity and terrain conditions</p> <p>2.4 Systematically load trucks and/or construct log/slash stacks using handling techniques to avoid log damage and ensure safety and stability of truck and/or stacks</p> <p>2.5 Use appropriate techniques to maintain log product separation in the truck when multiple product grades are loaded or in line with the production plan requirements</p> <p>2.6 Drive the machine and manoeuvre log grapple safely and efficiently to avoid logs, machine and environmental damage</p> <p>2.7 Ensure all merchantable product and/or slash from the site is</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	loaded or sorted in line with the production plan requirements
3. Segregate and stack stems and/or logs	<p>3.1 Visually assess and measure products for size, species and quality characteristics at the felling site and during stacking at the roadside or landing bay to ensure they are placed in the appropriate stack and in line with the production plan requirements</p> <p>3.2 Mark and report logs that cannot be clearly and safely assessed in line with the production plan requirements</p> <p>3.3 Position and construct stacks of stems or logs to avoid product damage, provide stability, restrict height for efficient extraction and facilitate safe access and conduct of other landing and machine operation in line with worksite layout and production plan requirements</p> <p>3.4 Maintain stack separation and identification to ensure products are correctly presented on roadside and/or landing bay for an optimum transport and logistics cycle time in line with industry standards and production plan requirements</p> <p>3.5 Clean area of all debris resulting from excavator with log grapple operation, in line with resource management policies</p>
4. Carry out machine operator maintenance	<p>4.1 Park, shut-down, de-energise and isolate excavator with log grapple in line with workplace procedures or manufacturers' recommendations</p> <p>4.2 Clean, check and carry out routine maintenance tasks on excavator with log grapple to maintain optimum operational performance</p> <p>4.3 Identify and report machine faults, malfunctions or problems in line with workplace procedures or manufacturers' recommendations</p> <p>4.4 Clean work area and dispose of or recycle waste materials in line with site environmental management plan</p> <p>4.5 Record excavator with log grapple operations and maintenance activities</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> read production plans, site safety and environmental management plans in a forest harvesting environment read standard operating procedures and/or manufacturers' instructions for the operation of forest harvesting machinery
Writing	<ul style="list-style-type: none"> record operation, production and machine maintenance on paper based or electronic media
Oral Communication	<ul style="list-style-type: none"> interact verbally and non-verbally using agreed systems and processes to communicate with others on site to ensure safe and effective machine operations use appropriate vocabulary including technical language directly relevant to role
Numeracy	<ul style="list-style-type: none"> interpret gauges relevant to safe operation of harvesting machinery determine construction of stable log stack estimate the weight of logs to determine loading requirements and compliance to machine specifications
Navigate the world of work	<ul style="list-style-type: none"> understand main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> use modes of communication suitable to purpose to confirm and clarify understanding communicate and report operational and safety information to on-site personnel
Get the work done	<ul style="list-style-type: none"> recognise and respond to routine problems plan and organise own work activities and resources

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPHAR3225 Operate excavator with log grapple	FWPHAR3219 Conduct excavator operations with grabs	Significant changes to reflect industry requirements for a safe, appropriate and efficient operation, including product quality. A new element and new PCs were added, most PCs were edited and PE and KE increased in content to	No equivalent unit

Code and title current version	Code and title previous version	Comments	Equivalence status
		map against the revised PCs. Additional foundation skills identified. Code and title change for consistency with industry terminology and other machine operation units.	

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWP HAR3225 Operate excavator with log grapple

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 3.0.

Performance Evidence

An individual demonstrating competency must satisfy all the elements and performance criteria of this unit. There must be evidence that, on at least one occasion, the individual has:

- planned, prepared and safely and effectively operated an excavator with log grapple, to load logs/slash on trucks and/or sort and stack logs in line with a production plan
- checked risks associated with the operation and applied standard operating procedure
- followed production plan requirements and site safety and environmental management plan
- determined suitability and stability of the machine for operation by considering machine specifications, terrain characteristics and type and size of logs to be grappled
- adjusted machine positioning technique in response to terrain conditions
- demonstrated knowledge of log species, quality characteristics and defects in line with the production plan requirements
- applied machine techniques to drive, grapple, load and/or stack logs or slash and minimise damage to products, machine and surrounding environment in line with the production plan requirements
- placed, stacked and presented products for efficient transportation and identification in line with the production plan requirements
- communicated effectively with others in the work area
- shut down, de-energised and isolated machine in line with workplace procedures and operator's manual
- carried out routine maintenance on the machine.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- information and requirements contained in a production plan and site safety and environmental management plans
- hazardous or safe working zones in forest harvesting operations

- health and operational hazards or risks related to excavator with log grapple and factors that can change or introduce new hazards
- industry-accepted work health and safety risk control measures, legal obligations of the current Work Health and Safety Acts or Occupational Health and Safety Acts and regulations and requirements of industry standards and/or codes of practice for excavator with log grapple operations as outlined in workplace procedures and production plan
- industry-accepted warning signs, their correct positioning, vehicle-to-vehicle communication systems and procedures to maintain communication and work safety during operations
- required emergency response procedure, including firefighting resources and emergency response
- potential impact of excavator with log grapple operations on onsite and offsite environmental values including cultural heritage, flora, fauna, ground compaction, water contamination and soil erosion
- industry-accepted environmental control measures, restrictions, legal obligations of the current Environment Protection Acts and regulations and requirements of industry standards and/or codes of practice for excavator with log grapple operations as outlined in workplace procedures and production plan
- landings usage
- wood flow requirements and extraction and production bottlenecks particular to a production system
- log species, quality characteristics and defects particular to the site and production system
- regional quality requirements for log products with particular end uses, markets, and values
- maximum log damage or defect and minimum quality allowances particular to a production system
- techniques particular to a production system to avoid mechanical damage to logs during grappling, loading and stacking; separate and present logs for efficient transportation and identification of the product
- effects of weather on ground conditions
- effects of terrain conditions on machine stability and operation
- machine specifications, restrictions and safe operating procedures, including stability and operation in different terrain conditions, slopes and road types and methods to shut down, de-energise and isolate the machine as outlined in workplace procedures or operator's manual
- using machine cabin controls
- techniques for safe and efficient driving of the machine during operation
- methods to conduct machine pre-operational checks and detect faults as outlined in workplace procedures or operator's manual
- location of machine's major mechanical systems and parts of the machine in which energy is stored as outlined in operator manuals for safe and efficient conduct of the machine operator maintenance tasks
- machine maintenance and servicing requirements, as outlined in workplace procedures or operator's manual

- industry-accepted reporting requirements regarding site, incident and hazard, personal reporting, check-in, production, machine maintenance and block completion.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest harvesting site or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - excavator with log grapple
 - logs/slash for loading and/or segregation and stacking
 - personal protective equipment required in harvesting operations
 - vehicle-to-vehicle communication system
- specifications:
 - access to workplace policies and procedures which cover current Work Health and Safety Acts or Occupation Health and Safety Acts, regulations and related industry standards and codes of practice applicable to forest harvesting operations
 - access to workplace policies and procedures which cover current Environment Protection Acts, regulations and related industry standards and codes of practice applicable to forest harvesting operations
 - access to production plan, site operational plan and safety and environmental management plans
 - access to site emergency procedure
 - access to workplace standard operating procedures for excavator with log grapple or operator's manual
 - access to user manual for vehicle-to-vehicle communication unit

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPHAR3226 Operate feller buncher

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 3.0.

Application

This unit of competency describes the skills and knowledge required to operate a feller buncher for log production and use optimised production processes in a commercial forest harvesting environment. The main job functions are to fell trees and pre-bunch stems for further processing. Activities are to be conducted safely and to ensure optimal harvesting production.

The unit applies to individuals who work as feller buncher operators in small or larger harvesting crews. Operators generally work under broad direction to complete routine activities related to harvesting operations and take responsibility for their work.

No occupational licensing, legislative or certification requirements apply to this unit at the time of publication.

Competency Field

Nil

Unit Sector

Harvesting (HAR)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare to operate a feller buncher	1.1 Review production plan, confirm its targets for felling and processing and assess wood flow requirements to ensure efficient machine operation and overall productivity 1.2 Confirm, identify and report health, safety, environmental and

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>heritage risks of operation in line with standard operating procedures and site safety and environmental management plans</p> <p>1.3 Apply risk control measures in line with standard operating procedures, site operational plan, legislative requirements and industry standards to eliminate or minimise risks</p> <p>1.4 Identify emergency plan procedures to follow in the event of an emergency</p> <p>1.5 Use production plans to identify entry points to the coupe, access to trees, extraction routes and directions to landings to facilitate an efficient process and minimise interference with other forestry operations</p> <p>1.6 Check work area to ensure there is appropriate space to safely manoeuvre both the machine and stems</p> <p>1.7 Identify cutting sequence and felling directions to minimise damage to the trees and the surrounding environment in line with the production plan</p> <p>1.8 Carry out pre-operational checks on machine and cutting head attachment in line with workplace procedures or manufacturers' recommendations to ensure optimal production performance and operational effectiveness</p>
2. Operate feller buncher	<p>2.1 Use industry-accepted warning signs, vehicle-to-vehicle communication systems and procedures to maintain communication and workplace safety during operation</p> <p>2.2 Assess individual trees to determine the best machine position, fall direction, hazards, placement of cuts and tree quality grade</p> <p>2.3 Drive and position the machine and felling head in response to tree characteristics and terrain conditions to ensure stability</p> <p>2.4 Use cabin controls to clamp and cut stems in line with cutting instructions and/or production plan and value recovery requirements</p> <p>2.5 Adjust clamping and cutting techniques in response to unexpected characteristics, movement or condition of tree</p> <p>2.6 Use controlled manipulation of equipment to free tree hang ups while ensuring safety and minimising damage to the trees, the machine and the environment</p> <p>2.7 Place stems at pre-bunching site and ensure minimal damage to stems and surrounding environment</p> <p>2.8 Move machine over pre-arranged routes to eliminate or minimise</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	environmental impact
3. Segregate and stack stems	<p>3.1 Visually assess stems for size species and quality characteristics during stacking at the pre-bunching site to ensure they are placed in the appropriate stack for transport and further processing in line with the production plan requirements</p> <p>3.2 Position and pre-bunch stems to avoid stem damage, provide stability, restrict height for efficient extraction and allow space for the conduct of other operations in line with worksite layout and production plan requirements</p> <p>3.3 Maintain stack separation and identification to ensure products are presented for optimum transport and logistics cycle time in line with industry standards and production plan requirements</p>
4 Carry out machine operator maintenance	<p>4.1 Park, shut-down, de-energise and isolate feller buncher in line with workplace procedures or manufacturers' recommendations</p> <p>4.2 Clean, check and carry out routine maintenance tasks on feller buncher to maintain optimum performance</p> <p>4.3 Inspect the machine and cutting head attachment for signs of damage and report faults, malfunctions or problems in line with workplace procedures and manufacturers' recommendations</p> <p>4.4 Clean work area and dispose of or recycle waste materials in line with site environmental management plan</p> <p>4.5 Record feller buncher operations and maintenance activities</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> read production plans, site safety and environmental management plans in a forest harvesting environment read standard operating procedures and/or manufacturers' instructions for the operation of forest harvesting machinery
Writing	<ul style="list-style-type: none"> record operation, production and machine maintenance on paper

Skill	Description
	based or electronic media
Oral Communication	<ul style="list-style-type: none"> interact verbally and non-verbally using agreed systems and processes to communicate with others on site to ensure safe and effective machine operations use appropriate vocabulary including technical language directly relevant to role
Numeracy	<ul style="list-style-type: none"> interpret gauges relevant to safe operation of harvesting machinery
Navigate the world of work	<ul style="list-style-type: none"> understand main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> use modes of communication suitable to purpose to confirm and clarify understanding communicate and report operational and safety information to on-site personnel
Get the work done	<ul style="list-style-type: none"> recognise and respond to routine problems plan and organise own work activities and resources

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPHAR3226 Operate feller buncher	FWPHAR3207 Conduct feller buncher operations	<p>Significant changes to reflect industry requirements for a safe appropriate and efficient operation, including value recovery and product quality. A new element and new PCs were added, most PCs were edited and PE and KE increased in content to map against the revised PCs.</p> <p>Additional foundation skills identified.</p> <p>Code and title change for consistency with other machine</p>	No equivalent unit

Code and title current version	Code and title previous version	Comments	Equivalence status
		operation units.	

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWP HAR3226 Operate feller buncher

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 3.0.

Performance Evidence

An individual demonstrating competency must satisfy all the elements and performance criteria of this unit. There must be evidence that, on at least one occasion, the individual has:

- planned, prepared and safely and effectively operated a feller buncher to fell trees and pre-bunch stems in line with cutting instructions and/or the production plan and optimum value recovery requirements
- checked risks associated with the operation and applied standard operating procedures
- followed production plan requirements, cutting instructions and site safety and environmental management plan
- planned cutting sequence
- adjusted machine driving and positioning technique in response to tree characteristics and terrain conditions
- applied felling techniques to minimise damage to the stem, standing trees, machine and environment in line with the production plan requirements
- adjusted operating techniques in response to unexpected characteristics, movement or condition of tree
- applied knowledge of tree species, quality characteristics and defects during operation in line with the production plan requirements
- positioned, stacked and presented stems for efficient transportation and identification in line with the production plan requirements
- communicated effectively with others in the work area
- shut down, de-energised and isolated machine in line with workplace procedures and operator's manual
- carried out routine maintenance on feller buncher.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- information and requirements contained in a production plan, cutting instructions and site safety and environmental management plans
- hazardous or safe working zones in forest harvesting operations
- health and operational hazards or risks related to feller buncher operations and factors that can change or introduce new hazards or risks, including characteristics of difficult trees and risks associated with falling them safely
- industry-accepted work health and safety risk control measures, legal obligations of the current Work Health and Safety Acts or Occupational Health and Safety Acts and regulations and requirements of industry standards and/or codes of practice for feller buncher operations as outlined in workplace procedures and production plan
- industry-accepted warning signs, their correct positioning, vehicle-to-vehicle communication systems and procedures to maintain communication and work safety during feller buncher operations
- required emergency response procedure including firefighting resources and emergency response
- potential impacts of feller buncher operations on onsite and offsite environmental values, including cultural heritage, flora, fauna, ground compaction, water contamination and soil erosion
- industry-accepted environmental control measures, environmental restrictions, legal obligations of current Environment Protection Acts and regulations and requirements of industry standards and/or codes of practice for feller buncher operations as outlined in workplace procedures and production plan
- typical location of loading and/or landing site
- extraction methods
- wood flow requirements and extraction and production bottlenecks particular to a production system
- tree species, quality characteristics, shape and defects particular to the site and production system
- regional quality requirements for log products with particular end uses, markets and values
- maximum stump height requirements and methods to achieve maximum stump height in response to unexpected characteristics or condition of the trees and ground level
- maximum stem damage and defect allowance and minimum quality allowance particular to a production system
- techniques particular to a production system to avoid mechanical damage to, or breakage of, stems and standing trees during operation; avoid incorrect or excessive log butting; stack, separate and present logs for efficient transportation and identification of the product
- effects of weather on ground conditions
- effects of slope and terrain conditions on feller buncher stability and operation
- machine specifications, restrictions and safe operating procedures, including stability and operation in different terrain conditions, slopes and road types, chain shot rules, methods to shut down, de-energise and isolate the machine and optimal direction of travel as outlined in workplace procedures or operator's manual
- using machine cabin controls

- techniques for safe and efficient driving of feller buncher
- location of machine's major mechanical systems and parts of the machine in which energy is stored as outlined in operator manuals for safe and efficient conduct of the machine operator maintenance tasks
- method to conduct machine and cutting head attachment pre-operational checks and inspections to detect faults as outlined in workplace procedures or operator's manual
- machine maintenance and servicing requirements as outlined workplace procedures or operator's manual
- industry-accepted reporting requirements regarding site, incident and hazard, personal reporting, check-in, production, machine maintenance and block completion.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest harvesting site or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - feller buncher
 - suitable trees to fell
 - personal protective equipment required in harvesting operations
 - vehicle-to-vehicle communication system
- specifications:
 - access to workplace policies and procedures which cover current Work Health and Safety Acts or Occupational Health and Safety Acts, regulations and related industry standards and codes of practice applicable to forest harvesting operations
 - access to workplace policies and procedures which cover current Environment Protection Acts, regulations and related industry standards and codes of practice applicable to forest harvesting operations
 - access to production plan, cutting instructions and safety and environmental management plans
 - access to site emergency procedure
 - access to workplace safety procedures for operating single grip harvester or operator's manual
 - access to user manual for vehicle-to-vehicle communication unit.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPHAR3227 Operate forwarder

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 3.0.

Application

This unit of competency describes the skills and knowledge required to operate a forwarder for log production and use optimised production processes in a commercial forest harvesting environment. The main job functions are to load logs at felling or pre-bunching sites, transport and unload logs at a mill or landing area. Activities are to be conducted safely and efficiently.

The unit applies to individuals who work as forwarder operators in small to large harvesting crews. Operators generally work under broad direction to complete routine activities related to forwarding operations and take responsibility for their work.

No occupational licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Harvesting (HAR)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare to operate a forwarder	1.1 Review production plan, confirm its targets for felling and processing and assess wood flow requirements to ensure efficient machine operation and overall productivity 1.2 Confirm type, size and quantity of logs to be moved with

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>forwarder to ensure that the load and the machine are in line with safe working requirements and industry standards for operation</p> <p>1.3 Confirm, identify and report health, safety, environmental and heritage risks of operation in line with standard operating procedures and site safety and environmental management plans</p> <p>1.4 Apply risk control measures in line with standard operating procedures, site operational plan, legislative requirements and industry standards to eliminate or minimise risks</p> <p>1.5 Identify emergency plan procedures to follow in the event of an emergency</p> <p>1.6 Use production plan to identify entry points to the coupe, extraction routes and directions to the landing or other locations for efficient extraction of logs, minimum environmental impact and interference with other forestry operations</p> <p>1.7 Assess terrain characteristics to establish machine stability</p> <p>1.8 Carry out pre-operational checks on machine in line with workplace procedures or manufacturers' recommendations to ensure optimal production performance and operational effectiveness</p>
2. Operate forwarder for loading	<p>2.1 Use industry-accepted warning signs, vehicle-to-vehicle communication systems and procedures to maintain communication and workplace safety during operation</p> <p>2.2 Drive and position forwarder for stability, safe access to logs and within reach of the crane and adjust the technique in response to terrain conditions</p> <p>2.3 Use cabin controls to operate the crane to load the rear bunk by aligning and grappling logs to create a stable load</p> <p>2.4 Systematically load logs into the bunk by using handling techniques to avoid log damage in line with the production plan requirements</p> <p>2.5 Use techniques to maintain product separation in the bunk when multiple product grades are loaded or in line with the production plan requirements</p>
3. Operate forwarder for transporting and unloading	<p>3.1 Use techniques and appropriate equipment to restrain load in line with positioning and stability requirements for transportation</p> <p>3.2 Line up the crane behind the forwarder and drive to the mill or landing site efficiently and safely to avoid damage to logs and</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>equipment</p> <p>3.3 Unload logs into safe and stable stacks at landing area or directly onto a truck</p> <p>3.4 Recover all merchantable product from site in line with the production plan requirements</p>
4. Segregate and stack logs	<p>4.1 Visually assess logs for size, species and quality characteristics during loading at the felling site and unloading at the landing bay to ensure they are placed in the appropriate stack and in line with the production plan requirements</p> <p>4.2 Mark and report logs that cannot be clearly and safely assessed in line with the production plan requirements</p> <p>4.3 Position and construct log stacks to avoid log damage, provide stability, restrict height and facilitate safe access and conduct of other landing and equipment operations in line with planned worksite layout</p> <p>4.4 Maintain stack separation and identification to ensure products are presented for an optimum transport and logistics cycle time and are in line with industry standards and production plan requirements</p> <p>4.5 Clean area of all debris resulting from loading and unloading operations in line with resource management policies</p>
5. Carry out machine operator maintenance	<p>5.1 Park, shut-down, de-energise and isolate forwarder in line with workplace procedures or manufacturers' recommendations</p> <p>5.2 Clean, check and carry out routine maintenance tasks on forwarder and equipment to maintain optimum operational performance</p> <p>5.3 Identify and report machine and equipment faults, malfunctions or problems in line with workplace procedures or manufacturers' recommendations</p> <p>5.4 Clean work area and dispose of or recycle waste materials in line with site environmental management plan</p> <p>5.5 Record forwarder operations and maintenance activities</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> • read production plans, site safety and environmental management plans in a forest harvesting environment • read standard operating procedures and/or manufacturers' instructions for the operation of forest harvesting machinery
Writing	<ul style="list-style-type: none"> • record operation, production and machine maintenance on paper based or electronic media
Oral Communication	<ul style="list-style-type: none"> • interact verbally and non-verbally using agreed systems and processes to communicate with others on site to ensure safe and effective forwarder operations • use appropriate vocabulary including technical language directly relevant to role
Numeracy	<ul style="list-style-type: none"> • interpret gauges relevant to safe operation of harvesting machinery • determine construction of stable log stack • estimate the weight of logs to determine loading requirements and compliance to load plate specifications
Navigate the world of work	<ul style="list-style-type: none"> • understand main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> • use modes of communication suitable to purpose to confirm and clarify understanding • communicate and report operational and safety information to on-site personnel
Get the work done	<ul style="list-style-type: none"> • recognise and respond to routine problems • plan and organise own work activities and resources

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPHAR3227 Operate forwarder	FWPHAR3206 Conduct forwarder operations	Significant changes to reflect industry requirements for a safe, appropriate and efficient operation, including product quality. A new element and new PCs were added, most PCs were edited and PE and KE increased in content to	No equivalent unit

Code and title current version	Code and title previous version	Comments	Equivalence status
		map against the revised PCs. Additional foundation skills identified. Code and title change to reflect outcomes of unit and consistency with other machine operation units.	

Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWP HAR3227 Operate forwarder

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 3.0.

Performance Evidence

An individual demonstrating competency must satisfy all the elements and performance criteria of this unit. There must be evidence that, on at least one occasion, the individual has:

- planned, prepared and safely and effectively operated a forwarder and equipment to load, transport and unload logs in stacks and/or on a truck
- checked risks associated with the operation and apply standard operating procedures
- followed production plan requirements and site safety and environmental management plan
- determined suitability and stability of forwarder for operation and safe working load limits, by considering capacity and limitation of machine, terrain characteristics and type, size and quantity of logs to be loaded
- adjusted machine driving and positioning techniques in response to terrain conditions
- applied loading, unloading and driving techniques to minimise damage to logs, standing trees, machine and environment in line with the production plan requirements
- placed, stacked and presented logs for efficient transportation and identification in line with the production plan requirements
- communicated effectively with others in the work area
- shut down, de-energised and isolated machine in line with workplace procedures and operator's manual
- carried out routine maintenance on forwarder parts.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- information and requirements contained in a production plan and site safety and environmental management plans
- hazardous or safe working zones in forest harvesting operations
- health and operational hazards or risks related to forwarder operations and factors that can change or introduce new hazards

- industry-accepted work health and safety risk control measures, legal obligations of the current Work Health and Safety Acts or Occupational Health and Safety Acts and regulations and requirements of industry standards and/or codes of practice for single grip harvesting operations as outlined in workplace procedures and production plan
- industry-accepted warning signs, their correct positioning, vehicle-to-vehicle communication systems and procedures to maintain communication and workplace safety during forwarder operations
- required emergency response procedure including firefighting resources and emergency response
- potential impacts of forwarder operations on onsite and offsite environmental values including cultural heritage, flora, fauna, ground compaction, water contamination and soil erosion
- industry-accepted environmental control measures, environmental restrictions, legal obligations of current Environment Protection Acts and regulations and requirements of industry standards and/or codes of practice for forwarder operations as outlined in workplace procedures and production plan
- landings usage, typical location of loading and/or landing site
- extraction methods for tree felling patterns
- wood flow requirements and extraction and production bottlenecks particular to a production system
- effects of weather on ground conditions
- effects of slope and terrain conditions on forwarder stability and operation
- log species, quality characteristics and defects particular to the site and production system
- regional quality requirements for log products with particular end uses, markets and values
- maximum log damage or defects and minimum quality allowances particular to a production system
- techniques particular to a production system to avoid mechanical damage to logs during loading, unloading and stacking; separate and present logs for efficient transportation and identification of the product
- machine specifications, restrictions and safe operating procedures including stability and operation in different terrain conditions, slopes and road types and methods to shut down, de-energise and isolate the machine as outlined in workplace procedures or operator's manual
- using machine cabin controls
- techniques to restrain logs safely
- techniques for safe and efficient driving of forwarder to landing area or the mill
- location of machine's major mechanical systems and parts of the machine in which energy is stored as outlined in operator manuals for safe and efficient conduct of the machine operator maintenance tasks
- methods to conduct machine pre-operational checks and detect faults as outlined in workplace procedures or operator's manual
- machine maintenance and servicing requirements as outlined in workplace procedures or operator's manual

- industry-accepted reporting requirements regarding site, incident and hazard, personal reporting, check-in, production, machine maintenance and block completion.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest harvesting site or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - forwarder
 - suitable logs to load, unload and stack
 - personal protective equipment required in harvesting operations
 - vehicle-to-vehicle communication systems
- specifications:
 - access to workplace policies and procedures which cover current Work Health and Safety Acts or Occupational Health and Safety Acts, regulations and related industry standards and codes of practice applicable to forest harvesting operations
 - access to workplace policies and procedures which cover current Environment Protection Acts, regulations and related industry standards and codes of practice applicable to forest harvesting operations
 - access to production plan and safety and environmental management plans
 - access to site emergency procedure
 - access to workplace safety procedures for operating single grip harvester or operator's manual
 - access to user manual for vehicle-to-vehicle communication system.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPHAR3228 Operate loader

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 3.0.

Application

This unit of competency describes the skills and knowledge required to operate an articulated front-end wheel loader for log production and use optimised production processes in a commercial forest harvesting environment. The main job functions are to load log trucks and/or sort log stacks at roadside or landing area for transportation. Other functions include slash removal. Activities are to be conducted safely and efficiently.

The unit applies to individuals who work as loader operators in small or larger harvesting crews. Operators generally work under broad direction to complete routine activities related to crawler tractor operations and take responsibility for their work.

No occupational licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Harvesting (HAR)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare to operate a loader	1.1 Review production plan, confirm its targets for felling and processing and assess wood flow requirements to ensure efficient machine operation and overall productivity 1.2 Confirm type, size and quantity of logs or slash to be clamped to

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>ensure that loads and machine are in line with safe working requirements and industry standards for operations</p> <p>1.3 Confirm, identify and report health, safety, environmental and heritage risks of operation in line with standard operating procedures and site safety and environmental management plans</p> <p>1.4 Apply risk control measures in line with standard operating procedures, site operational plan, legislative requirements and industry standards to eliminate or minimise risks</p> <p>1.5 Identify emergency plan procedures to follow in the event of an emergency</p> <p>1.6 Use production plan to identify layout of landing or roadside area and access to logs for efficient process and minimum interference with other forestry operations</p> <p>1.7 Assess terrain characteristics to establish machine stability</p> <p>1.8 Carry out pre-operational checks on machine in line with workplace procedures or manufacturers' recommendations to ensure optimal production performance and operational effectiveness</p>
2. Operate loader to load log trucks and/or sort log stacks	<p>2.1 Use industry-accepted warning signs, vehicle-to-vehicle communication systems and procedures to maintain communication and workplace safety during operation</p> <p>2.2 Position loader for stability and safe access to logs/slash, by adjusting the technique in response to terrain conditions</p> <p>2.3 Use machine cabin controls to clamp bunches of logs/slash, and load trucks and/or sort stacks, while ensuring that the bunch size is suited to the log clamp capacity and terrain conditions</p> <p>2.4 Systematically load trucks and/or construct log/slash stacks by using handling techniques to avoid log damage in line with the production plan requirements and ensure safety and stability of truck and/or stacks</p> <p>2.5 Use appropriate techniques to maintain log product separation in the truck when multiple product grades are loaded or in line with the production plan requirements</p> <p>2.6 Drive the machine and manoeuvre log clamp safely and efficiently to avoid logs, machine and environment damage in line with the production plan requirements</p> <p>2.7 Ensure all merchantable product and/or slash from the site is loaded or sorted in line with the production plan requirements</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
3. Segregate and stack stems and/or logs	<p>3.1 Visually assess and measure products for size, species and quality characteristics at the felling site and during staking at the roadside or landing bay, to ensure they are placed in the appropriate stack and in line with the production plan requirements</p> <p>3.2 Mark and report logs that cannot be clearly and safely assessed in line with the production plan requirements</p> <p>3.3 Position and construct stacks of stems or logs to avoid product damage, provide stability, restrict height for efficient extraction and facilitate safe access and conduct of other landing and machine operations in line with worksite layout and production plan requirements</p> <p>3.4 Maintain stack separation and identification to ensure products are correctly presented on roadside and/or landing bay for an optimum transport and logistics cycle time in line with industry standards and production plan requirements</p> <p>3.5 Clean area of all debris resulting from loader operation in line with resource management policies</p>
4. Carry out machine operator maintenance	<p>4.1 Park, shut-down, de-energise and isolate loader in line with workplace procedures or manufacturers' recommendations</p> <p>4.2 Clean, check and carry out routine maintenance tasks on loader to maintain optimum operational performance</p> <p>4.3 Identify and report machine faults, malfunctions or problems in line with workplace procedures or manufacturers' recommendations</p> <p>4.4 Clean work area and dispose of or recycle waste materials in line with site environmental management plan</p> <p>4.5 Record loader operations and maintenance activities</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> read production plans, site safety and environmental management

Skill	Description
	<ul style="list-style-type: none"> plans in a forest harvesting environment read standard operating procedures and/or manufacturers' instructions for the operation of forest harvesting machinery
Writing	<ul style="list-style-type: none"> record operation, production and machine maintenance on paper based or electronic media
Oral Communication	<ul style="list-style-type: none"> interact verbally and non-verbally using agreed systems and processes to communicate with others on site to ensure safe and effective machine operations use appropriate vocabulary, including technical language directly relevant to role
Numeracy	<ul style="list-style-type: none"> interpret gauges relevant to safe operation of harvesting machinery determine construction of stable log stack estimate the weight of logs to determine loading requirements and compliance to machine specifications
Navigate the world of work	<ul style="list-style-type: none"> understand main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> use modes of communication suitable to purpose to confirm and clarify understanding communicate and report operational and safety information to on-site personnel
Get the work done	<ul style="list-style-type: none"> recognise and respond to routine problems plan and organise own work activities and resources

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPHAR3228 Operate loader	FWPHAR3218 Conduct loader operations	Significant changes to reflect industry requirements for a safe, appropriate and efficient operation, including product quality. A new element and new PCs were added, most PCs were edited and PE and KE increased in content to map against the revised	No equivalent unit

Code and title current version	Code and title previous version	Comments	Equivalence status
		PCs. Additional foundation skills identified. Code and title change for consistency with other machine operation units.	

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWP HAR3228 Operate loader

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 3.0.

Performance Evidence

An individual demonstrating competency must satisfy all the elements and performance criteria of this unit. There must be evidence that, on at least one occasion, the individual has:

- planned, prepared and safely and effectively operated loader to load logs/slash on trucks and/or sort and stack logs in line with a production plan
- checked risks associated with the operation and applied standard operating procedures
- followed the production plan requirements and site safety and environmental management plans
- determined suitability and stability of the machine for operation by considering machine specifications, terrain characteristics and type and size of logs to be clamped
- adjusted machine positioning technique in response to terrain conditions
- demonstrated knowledge of log species, quality characteristics and defects in line with the production plan requirements
- applied machine techniques to drive, clamp, load and/or stack logs or slash and minimise damage to products, machine and surrounding environment in line with the production plan requirements
- placed, stacked and presented products for efficient transportation and identification in line with the production plan requirements
- shut down, de-energised and isolated machine in line with workplace procedures and operator's manual
- carried out routine maintenance on the machine.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- information and requirements contained in a production plan and site safety and environmental management plans
- hazardous or safe working zones in forest harvesting operations
- health and operational hazards or risks related to loader and factors that can change or introduce new hazards

- industry-accepted work health and safety risk control measures, legal obligations of the current Work Health and Safety Acts or Occupational Health and Safety Acts and regulations and requirements of industry standards and/or codes of practice for loader operations as outlined in workplace procedures and production plan
- industry-accepted warning signs, their correct positioning, vehicle-to-vehicle communication systems and procedures to maintain communication and work safety during operations
- required emergency response procedure, including firefighting resources and emergency response
- potential impacts of loader operations on onsite and offsite environmental values, including cultural heritage, flora, fauna, ground compaction, water contamination and soil erosion
- industry-accepted environmental control measures, restrictions, legal obligations of the current Environment Protection Acts and regulations and requirements of industry standards and/or codes of practice for loader operations as outlined in workplace procedures and production plan
- landings usage
- wood flow requirements and extraction and production bottlenecks particular to a production system
- log species, quality characteristics and defects particular to the site and production system
- regional quality requirements for log products with particular end uses, markets and values
- maximum log damage or defect and minimum quality allowances particular to a production system
- techniques particular to a production system to avoid mechanical damage to logs during grappling, loading and stacking; separate and present logs for efficient transportation and identification of the product
- effects of weather on ground conditions
- effects of terrain conditions on machine stability and operation
- machine specifications, restrictions and safe operating procedures, including stability and operation in different terrain conditions, slopes and road types and methods to shut down, de-energise and isolate the machine as outlined in workplace procedures or operator's manual
- using machine cabin controls
- techniques for safe and efficient driving of the machine during operation
- methods to conduct machine pre-operational checks and detect faults, as outlined in workplace procedures or operator's manual
- location of machine's major mechanical systems and parts of the machine in which energy is stored, as outlined in operator manuals for safe and efficient conduct of the machine operator maintenance tasks
- machine maintenance and servicing requirements as outlined in workplace procedures or operator's manual
- industry-accepted reporting requirements regarding site, incident and hazard, personal reporting, check-in, production, machine maintenance and block completion.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest harvesting site or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - loader
 - logs/slash for loading and/or segregation and stacking
 - personal protective equipment required in harvesting operations
 - vehicle-to-vehicle communication system
- specifications:
 - access to workplace policies and procedures which cover current Work Health and Safety Acts or Occupation Health and Safety Acts, regulations and related industry standards and codes of practice applicable to forest harvesting operations
 - access to workplace policies and procedures which cover current Environment Protection Acts, regulations and related industry standards and codes of practice applicable to forest harvesting operations
 - access to production plan, operational plan and safety and environmental management plans
 - access to site emergency procedure
 - access to workplace standard operating procedures for loader or operator's manual
 - access to user manual for vehicle-to-vehicle communication system.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPHAR3229 Operate single grip harvester

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 3.0.

Application

This unit of competency describes the skills and knowledge required to operate a single grip harvester for log production and use optimised production processes in a commercial forest harvesting environment. The main job functions are to fell trees, delimb, cut stems to optimum value and segregate log products. Activities are to be conducted safely and to ensure optimal value recovery and extraction of logs.

The unit applies to individuals who work as single grip harvester operators in small or larger harvesting crews. Operators generally work under broad direction to complete routine activities related to harvesting operations and take responsibility for their work.

No occupational licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Harvesting (HAR)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare to operate a single grip harvester	1.1 Review production plan, confirm its targets for felling and processing and assess wood flow requirements to ensure efficient machine operation and overall productivity 1.2 Confirm, identify and report health, safety, environmental and

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>heritage risks of operation in line with standard operating procedures and site safety and environmental management plans</p> <p>1.3 Apply risk control measures in line with standard operating procedures, site operational plan, legislative requirements and industry standards to eliminate or minimise risks</p> <p>1.4 Identify emergency plan procedures to follow in the event of an emergency</p> <p>1.5 Use production plan to identify entry points to the coupe, access to tree, extraction routes and directions to landings to facilitate an efficient process and minimise interference with other forestry operations</p> <p>1.6 Check work area to ensure there is appropriate space to safely manoeuvre both the machine and stems, stockpile processed logs and store or dispose of stem waste and tops according to production plan</p> <p>1.7 Assess terrain characteristics to establish machine stability</p> <p>1.8 Identify cutting sequence and felling directions to minimise damage to the trees and the surrounding environment in line with the production plan</p> <p>1.9 Use log cutting instructions and/or production plan to determine the product types and quality parameters to be produced</p> <p>1.10 Carry out pre-operational checks on machine in line with workplace procedures or manufacturers' recommendations to ensure optimal production performance and operational effectiveness</p>
2. Operate single grip harvester	<p>2.1 Use industry-accepted warning signs, vehicle-to-vehicle communication systems and procedures to maintain communication and workplace safety during operation</p> <p>2.2 Assess individual trees to determine the best machine position, fall direction, hazards, placement of cuts and grade quality</p> <p>2.3 Drive and position the machine and harvester head in response to tree characteristics and terrain conditions to ensure stability</p> <p>2.4 Use appropriate methods to reset the harvesting head length counter to prevent loss of log volume or value</p> <p>2.5 Assess tree species, size and quality characteristics in line with log cutting instructions and/or production plan requirements and use cabin controls to clamp, cut and produce logs with optimal length, quality and diameter</p> <p>2.6 Adjust clamping, cutting and processing techniques in response to</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>unexpected characteristics, movement or condition of tree to minimise log and log surface damage in line with the production plan requirements</p> <p>2.7 Move machine over pre-arranged routes to minimise environmental impact</p>
3. Segregate and stack logs	<p>3.1 Visually assess logs for size, species and quality characteristics during stacking at the pre-bunching site to ensure they are placed in the appropriate stack for transport and further processing and in line with the production plan requirements</p> <p>3.2 Mark and report logs that cannot be clearly and safely assessed in line with the production plan requirements</p> <p>3.3 Position and construct log stacks to avoid log damage, provide stability, restrict height for efficient extraction and allow space for the conduct of other operations in line with worksite layout and the production plan requirements</p> <p>3.4 Maintain stack separation and identification to ensure products are presented for an optimum transport and logistics cycle time and are in line with industry standards and production plan requirements</p>
4. Carry out machine operator maintenance	<p>4.1 Park, shut-down, de-energise and isolate single grip harvester in line with workplace procedures or manufacturers' recommendations</p> <p>4.2 Adjust feed roller pressures and delimiting knife settings to minimise roller stud and delimiting damage</p> <p>4.3 Clean, check and carry out routine maintenance tasks on single grip harvester to maintain optimum performance</p> <p>4.4 Identify and report machine faults, malfunctions or problems in line with workplace procedures or manufacturers' recommendations</p> <p>4.5 Clean work area and dispose of or recycle waste materials in line with site environmental management plan</p> <p>4.6 Record single grip harvester operations and maintenance activities</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> read production plans, site safety and environmental management plans in a forest harvesting environment read standard operating procedures and/or manufacturers' instructions for the operation of forest harvesting machinery
Writing	<ul style="list-style-type: none"> record operation, production and machine maintenance on paper based or electronic media
Oral Communication	<ul style="list-style-type: none"> interact verbally and non-verbally using agreed systems and processes to communicate with others on site to ensure safe and effective single grip harvester operations use appropriate vocabulary including technical language directly relevant to role
Numeracy	<ul style="list-style-type: none"> interpret gauges relevant to safe operation of harvesting machinery determine construction of stable log stack
Navigate the world of work	<ul style="list-style-type: none"> understand main tasks, responsibilities and boundaries of own role
Interact with others	<ul style="list-style-type: none"> use modes of communication suitable to purpose to confirm and clarify understanding communicate and report operational and safety information to on-site personnel
Get the work done	<ul style="list-style-type: none"> recognise and respond to routine problems plan and organise own work activities and resources

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPHAR3229 Operate single grip harvester	FWPHAR3214 Operate a single grip harvester	Significant changes to reflect industry requirements for a safe appropriate and efficient operation, including value recovery and product quality. A new element and new PCs were added, most PCs were edited and PE and KE increased in content to map against the revised	No equivalent unit

Code and title current version	Code and title previous version	Comments	Equivalence status
		PCs. Additional foundation skills identified. Code and title change for consistency with other machine operation units.	

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWP HAR3229 Operate single grip harvester

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 3.0.

Performance Evidence

An individual demonstrating competency must satisfy all the elements and performance criteria of this unit. There must be evidence that, on at least one occasion, the individual has:

- planned, prepared and safely and effectively operated a single grip harvester to cut and produce log products with optimal length, quality and diameter in line with log cutting instructions, quality specifications or production plan
- checked risks associated with the operation and applied standard operating procedures
- followed production plan requirements, log cutting instructions or quality specifications and site safety and environmental management plan
- adjusted machine driving and positioning techniques in response to terrain conditions and unexpected characteristics, movement or condition of tree
- applied felling and processing techniques to minimise damage to the stem, logs, standing trees, machine and surrounding environment in line with the production plan requirements
- applied knowledge of log species, quality characteristics and defects during operation in line with the production plan requirements
- placed, stacked and presented logs for efficient transportation and identification in line with the production plan requirements
- communicated effectively with others in the work area
- shut down, de-energised and isolated machine in line with workplace procedures and operator's manual
- carried out routine maintenance on single grip harvester.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- information and requirements contained in a production plan, log cutting instructions or product quality specifications and site safety and environmental management plans
- hazardous or safe working zones in forest harvesting operations

- health and operational hazards or risks related to single grip harvesting operations and factors that can change or introduce new hazards or risks including characteristics of difficult trees and risks associated with falling them safely
- industry-accepted work health and safety risk control measures, legal obligations of the current Work Health and Safety Acts or Occupational Health and Safety Acts and regulations and requirements of industry standards and/or codes of practice for single grip harvesting operations as outlined in workplace procedures and production plan
- industry-accepted warning signs, their correct positioning, vehicle-to-vehicle communication systems and procedures to maintain communication and work safety during single grip harvesting operations
- required emergency response procedure including firefighting resources and emergency response
- potential impacts of single grip harvester operations on onsite and offsite environmental values including cultural heritage, flora, fauna, ground compaction, water contamination and soil erosion
- industry-accepted environmental control measures, restrictions, legal obligations of the current Environment Protection Acts and regulations and requirements of industry standards and/or codes of practice for single grip harvesting operations as outlined in workplace procedures and production plan
- typical location of loading and/or landing site
- tree felling patterns
- extraction methods
- wood flow requirements and extraction and production bottlenecks particular to a production system
- tree shapes, species, quality characteristics and log defects particular to the site and production system
- regional quality requirements for log products with particular end uses, markets and values
- requirements and methods to achieve maximum stump height in response to unexpected characteristics or condition of the trees and ground level
- maximum log damage and defect and minimum quality allowances particular to a production system
- techniques particular to a production system to avoid mechanical damage to logs during felling, processing and stacking; achieve saw cuts at both ends of the product that meet quality specifications; avoid incorrect or excessive log butting; separate and present logs for efficient transportation and identification of the product
- effects of weather on ground conditions
- effects of slope and terrain conditions on machine stability and operation
- machine specifications, restrictions and safe operating procedures including stability and operation in different terrain conditions, slopes and road types, chain shot rules, methods to shut down, de-energise and isolate the machine and optimal direction of travel as outlined in workplace procedures or operator's manual
- using machine cabin controls
- techniques for safe and efficient driving of single grip harvester

- location of machine's major mechanical systems and parts of the machine in which energy is stored as outlined in operator manuals for safe and efficient conduct of the machine operator maintenance tasks
- methods to conduct machine pre-operational checks and detect faults as outlined in workplace procedures or operator's manual
- machine maintenance and servicing requirements as outlined in workplace procedures or operator's manual
- industry-accepted reporting requirements regarding site, incident and hazard, personal reporting, check-in, production, machine maintenance and block completion.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest harvesting site or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - single grip harvester
 - suitable trees to fell and process
 - personal protective equipment required in harvesting operations
 - vehicle-to-vehicle communication system
- specifications:
 - access to workplace policies and procedures which cover current Work Health and Safety Acts or Occupation Health and Safety Acts, regulations and related industry standards and codes of practice applicable to forest harvesting operations
 - access to workplace policies and procedures which cover off on current Environment Protection Acts, regulations and related industry standards and codes of practice applicable to forest harvesting operations
 - access to production plan, site operational plan, log cutting instructions and safety and environmental management plans
 - access to site emergency procedure
 - access to workplace standard operating procedures for single grip harvester or operator's manual
 - access to user manual for vehicle-to-vehicle communication system.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPHAR3230 Operate skidder

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 3.0.

Application

This unit of competency describes the skills and knowledge required to operate a skidder for log production and use optimised production processes in a commercial forest harvesting environment. The main job functions are to move stems and/or logs from felling site to roadside or landing areas. Activities are to be conducted safely and efficiently. Other functions include product segregation and stacking. It may also include removal of slash.

The unit applies to individuals who work as skidder operators in small or larger harvesting crews. Operators generally work under broad direction to complete routine activities related to skidder operations and take responsibility for their work.

No occupational licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Harvesting (HAR)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare to operate a skidder	1.1 Review production plan, confirm its targets and assess wood flow requirements to ensure efficient machine operation and overall productivity 1.2 Confirm type, size and quantity of stems and/or logs to be moved

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>with skidder to ensure that loads and machine are in line with safe working load requirements and industry standards for operations</p> <p>1.3 Confirm, identify and report health, safety, environmental and heritage risks of operation, in line with standard operating procedures and site safety and environmental management plans</p> <p>1.4 Apply risk control measures in line with standard operating procedures, site operational plan, legislative requirements and industry standards to eliminate or minimise risks</p> <p>1.5 Identify emergency plan procedures to follow in the event of an emergency</p> <p>1.6 Use production plan to identify location of extraction routes, entry points and directions to the landing for efficient extraction of logs and minimum interference with other forestry operations</p> <p>1.7 Assess terrain characteristics to establish machine stability</p> <p>1.8 Carry out pre-operational checks on machine in line with workplace procedures or manufacturers' recommendations to ensure optimal production performance and operational effectiveness</p>
2. Operate skidder	<p>2.1 Use industry-accepted warning signs, vehicle-to-vehicle communication systems and procedures to maintain communication and workplace safety during operation</p> <p>2.2 Select products, stems, logs or slash to be moved based on their position, location and size</p> <p>2.3 Position skidder for stability and safe access to products or slash by adjusting the technique in response to terrain conditions</p> <p>2.4 Carry out hooking-on and winching techniques or use cabin controls to grapple products or slash avoiding damage to the products in line with the production plan requirements</p> <p>2.5 Drive the machine to skid products or slash to the roadside or landing area to achieve optimum efficiency and minimise breakage and damage to products, standing trees and surrounding environment in line with the production plan requirements</p> <p>2.6 Unhook and position or construct stacks of stems, logs or slash at the roadside or landing area to avoid product damage, provide stability, restrict height for efficient extraction and facilitate safe access and conduct of other landing and equipment operations in line with worksite layout and production plan requirements</p> <p>2.7 Recover all merchantable product and/or slash from site in line</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	with the production plan requirements
3. Carry out machine operator maintenance	3.1 Park, shut-down, de-energise and isolate skidder in line with workplace procedures or manufacturers' recommendations 3.2 Clean, check and carry out routine maintenance activities on skidder and equipment to maintain optimum operational performance 3.3 Identify and report machine faults, malfunctions or problems in line with workplace procedures or manufacturers' recommendations 3.4 Clean work area of all debris and waste resulting from skidding operation and dispose of or recycle waste materials in line with site environmental management plan 4.5 Record skidder operations and maintenance activities

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> read production plans, site safety and environmental management plans in a forest harvesting environment read standard operating procedures and/or manufacturers' instructions for the operation of forest harvesting machinery
Writing	<ul style="list-style-type: none"> record operation, production and machine maintenance on paper based or electronic media
Oral Communication	<ul style="list-style-type: none"> interact verbally and non-verbally using agreed systems and processes to communicate with others on site to ensure safe and effective machine operations use appropriate vocabulary including technical language directly relevant to role
Numeracy	<ul style="list-style-type: none"> interpret gauges relevant to safe operation of harvesting machinery determine construction of stable log stack estimate the weight of logs to determine loading requirements and compliance to machine specifications
Navigate the world of	<ul style="list-style-type: none"> understand main tasks, responsibilities and boundaries of own role

Skill	Description
work	
Interact with others	<ul style="list-style-type: none"> use modes of communication suitable to purpose to confirm and clarify understanding communicate and report operational and safety information to on-site personnel
Get the work done	<ul style="list-style-type: none"> recognise and respond to routine problems plan and organise own work activities and resources

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPHAR3230 Operate skidder	FWPHAR3217 Conduct skidder operations	<p>Significant changes to reflect industry requirements for a safe, appropriate and efficient operation, including product quality. New PCs were added, some PCs were edited and PE and KE increased in content to map against the revised PCs.</p> <p>Additional foundation skills identified.</p> <p>Code and title change for consistency with other machine operation units.</p>	No equivalent unit

Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWP HAR3230 Operate skidder

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 3.0.

Performance Evidence

An individual demonstrating competency must satisfy all the elements and performance criteria of this unit. There must be evidence that, on at least one occasion, the individual has:

- planned, prepared and safely and effectively operated a skidder to move products and/or slash in line with production plan
- checked risks associated with the operation and applied standard operating procedures
- followed production plan requirements and site safety and environmental management plan
- determined suitability and stability of skidder for operation and safe working load limits by considering machine and equipment specifications, terrain characteristics and type and size of stems and/or logs to be moved
- adjusted machine driving and positioning technique in response to terrain conditions
- applied machine manipulation techniques to move products and/or slash and minimise damage to products, machine and surrounding environment in line with the production plan requirements
- placed and stacked products for efficient extraction in line with the production plan requirements
- communicated effectively with others in the work area
- shut down, de-energised and isolated machine in line with workplace procedures and operator's manual
- carried out routine maintenance on skidder parts.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- information and requirements contained in a production plan and site safety and environmental management plans
- hazardous or safe working zones in forest harvesting operations
- health and operational hazards or risks related to skidder operations and factors that can change or introduce new hazards

- industry-accepted work health and safety risk control measures, legal obligations of the current Work Health and Safety Acts or Occupation Health and Safety Acts and regulations, and requirements of industry standards and/or codes of practice for skidder operations as outlined in workplace procedures and production plan
- industry-accepted warning signs, their correct positioning, vehicle-to-vehicle communication systems and procedures to maintain communication and workplace safety during skidding operations
- required emergency response procedure including firefighting resources and emergency response
- potential impacts of skidder operations on onsite and offsite environmental values including cultural heritage, flora, fauna, ground compaction, water contamination and soil erosion
- industry-accepted environmental control measures, restrictions, legal obligations of the current Environment Protection Acts and regulations and requirements of industry standards and/or codes of practice for skidder operations, as outlined in workplace procedures and production plan
- landings usage
- typical location of loading and/or landing site
- tree felling patterns
- extraction methods
- wood flow requirements and extraction and production bottlenecks particular to a production system
- techniques particular to a production system to avoid mechanical damage to stems and logs during skidding and stacking; position and stack logs for efficient extraction
- effects of weather on ground conditions
- effects of slope and terrain conditions on skidder stability and operation
- machine specifications, restrictions and safe operating procedures, including stability and operation in different terrain conditions, slopes and road types and methods to shut down, de-energise and isolate the machine as outlined in workplace procedures or operator's manual
- using machine cabin controls
- techniques for safe and efficient driving of skidder
- methods to conduct pre-operational checks on machine and detect faults as outlined in workplace procedures or operator's manual
- location of machine's major mechanical systems and parts of the machine in which energy is stored as outlined in operator manuals for safe and efficient conduct of the machine operator maintenance tasks
- machine maintenance and servicing requirements as outlined in user or operator manuals
- industry-accepted reporting requirements regarding site, incident and hazard, personal reporting, check-in, production, machine maintenance and block completion.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:

- skills must be demonstrated in a forest harvesting site or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - skidder
 - suitable stems/logs and/or slash to be skidded
 - personal protective equipment required in harvesting operations
 - vehicle-to-vehicle communication systems
- specifications:
 - access to workplace policies and procedures which cover current Work Health and Safety Acts or Occupation Health and Safety Acts, regulations and related industry standards and codes of practice applicable to forest harvesting operations
 - access to workplace policies and procedures which cover current Environment Protection Acts, regulations and related industry standards and codes of practice applicable to forest harvesting operations
 - access to production plan and site safety and environmental management plans
 - access to site emergency procedure
 - access to workplace standard operating procedures for skidder or operator's manual
 - access to user manual for vehicle-to-vehicle communication systems.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPTMM3208 Apply critical workplace processes in the manufacture of prefabricated timber building systems

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 4.0.

Application

This unit of competency describes the skills and knowledge required to conduct production tasks on an assembly line for panelised or modular prefabricated timber building systems safely and efficiently. Critical workplace processes covered in this unit include workplace health and safety, storage and handling of building materials for major timber building sub-assemblies, quality check at the workstations before and after assembly work and control of waste material for disposal.

The unit applies to individuals who work as operators in a prefabricated timber building systems manufacturing plant. These include wood machinists, carpenters or joiners, supervisors and other trade and multi-skilled operators. Operators generally work under broad or limited direction to complete routine activities related to their own work, and take responsibility for their work.

In order to undertake this unit, individuals must have a relevant qualification or equivalent.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No occupational licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Timber Manufactured Products

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Apply workplace health and safety during the assembly operation	<p>1.1 Obtain and review workplace health and safety requirements and emergency procedures for assembly operation and, where required, check with appropriate personnel</p> <p>1.2 Use personal protective equipment and identify and report hazards, accidents, incidents or near misses throughout assembly operation according to workplace requirements and health and safety legislation to maintain safe work practices</p>
2. Store and handle building materials for major sub-assemblies	<p>2.1 Use the storage system provided for tools, equipment and building materials to enhance accessibility, protect material, and replenishment of commonly used resources</p> <p>2.2 Ensure that large sub-assemblies and materials are positioned according to workplace procedures for ease of access and safety, enabling optimal use of floor space and production efficiency</p>
3. Check the quality of building materials before assembly work begins	<p>3.1 Obtain and review task-specific information including design and production documents to ensure that product quality and production schedules and targets are met and that materials used conform to building products</p> <p>3.2 Access building materials from storage, check the suitability for the task, quantity, relevant product certification and quality and assemble as required to meet design specifications, standards, codes, certification and production schedule</p> <p>3.3 Ensure partition walls, floor elements and other regulated components are certified for thermal, acoustic and fire properties according to the design, local codes and standards</p> <p>3.4 Report any incorrect information and unsuitable and non-conforming building materials to appropriate personnel for repairing the defect, resolving its cause and preventing recurrence</p> <p>3.5 Access sub-assemblies from storage and check incoming variations in work processes or in design and equipment specifications</p> <p>3.6 Address or report incoming variations to the appropriate personnel</p> <p>3.7 Follow workplace procedures to ensure that the work is of the required standard and completed on time</p>
4. Check the quality of completed sub-assembly product and process	<p>4.1 Complete and check the quality of the assembly work to ensure it meets design specifications</p> <p>4.2 Identify and rectify safety risks associated with manual handling</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	of completed sub-assembly or prefabricated timber building system before its release to the next workstation or its delivery for on-site installation 4.3 Document and report time, product variations and work processes to identify non-value-added activities, delays and inefficiencies and initiate process improvement
5. Assess waste materials for reuse or disposal	5.1 Sort and store waste materials from assembly work according to health and safety procedures 5.2 Prepare waste materials for reuse or disposal according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Read a range of workplace documentation, including workplace health and safety plans, materials certification, design and production documents
Numeracy	<ul style="list-style-type: none"> Calculate quantity, length, volume, area and waste associated with the assembly of prefabricated timber building systems
Navigate the world of work	<ul style="list-style-type: none"> Take responsibility for decisions made to meet specifications and workplace requirements
Interact with others	<ul style="list-style-type: none"> Understand what to communicate, with whom and how in routine work situations
Get the work done	<ul style="list-style-type: none"> Take responsibility for planning and organising own workload

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status

FWPTMM3208 Apply critical workplace processes in the manufacture of prefabricated timber building systems	Not applicable	New unit	No equivalent unit
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Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPTMM3208 Apply critical workplace processes in the manufacture of prefabricated timber building systems

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 4.0.

Performance Evidence

An individual demonstrating competency in this unit must satisfy all of the elements and performance criteria of this unit. There must be evidence that, on at least three occasions, the individual applied critical workplace processes in the manufacture of prefabricated timber building systems for one or more panelised or modular prefabricated timber building system types, including:

- cross-laminated timber floor and wall systems
- post and beam systems (Glulam, laminated veneer lumber)
- panelised floor cassette systems
- panelised wall systems (including cladding, insulation, windows or doors)
- panelised and pre-finished wall systems (inclining above, electrical, plumbing, mechanical or lining)
- pre-finished and fully finished timber-based modules.

In doing the above, the individual has:

- implemented workplace health and safety procedures and practices at the assembly workstation
- demonstrated safe and efficient work practice for storing and handling building materials and sub-assemblies according to workplace procedures
- reviewed design and production documents and understood assembly work requirements regarding quality, quantity and production schedules and targets
- checked the quality of building materials and sub-assemblies from previous work against design specifications and certification requirements before commencing the assembly work
- checked completed sub-assembly or prefabricated timber building system against specifications and safe manual handling before being released to the next workstation or delivered for on-site installation
- documented and reported time and product variations, defects and work processes efficiently and according to workplace procedures.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- task-specific information and requirements contained in drawings, design specifications, production schedules, work method statements, risk assessments and manufacturer information
- health and safety hazards or risks related to the assembly activity and as identified through risk assessments, manufacturer technical information, regulations and industry health and safety guides, including:
 - lifting and handling of large building materials and sub-assemblies, including the use of tools and handling equipment
 - methods of work
 - product storage
- workplace health and safety procedures and practices related to the assembly activities, including:
 - emergency response procedure and responsibilities when involved with fires, spillages and injuries relating to occupational activities
 - accident reporting procedures and responsibilities
 - safe use of personal protective equipment (PPE)
- efficient storage of building materials and replenishment systems in the off-site manufacture of prefabricated timber building systems
- methods for efficient handling and positioning of large timber building sub-assemblies and materials at workstations along assembly lines
- aspects of design specifications for a range of prefabricated timber building systems and their final application:
 - types, quantity, quality, sizes, suitability and sustainability of building materials including wood structural components and fixings; choice of materials and properties
 - services components including hydraulics, electrical or heating, ventilation and air conditioning
 - jurisdictional standards, codes and certifications for building materials, services, components and fixings in the location where prefabricated timber building systems are installed
 - regulated components, including partition walls and floor elements, and valid documentation for attesting compliance with thermal, acoustic and fire requirements
 - acceptable tolerances and continuity or discontinuity requirements for materials, insulation systems and services related to a range of prefabricated timber building systems; the importance for on-site installation and in-service life cycle
- workstations or operations associated with a particular production line for prefabricated timber building systems; order of sequence or flow of sub-assembled products and information between process activities
- bottleneck operations and causes for delays or inefficiencies, including product design variations and rework due to damage, material unavailability, poor quality, incorrect positioning in the sub-assembly area, design questions or errors

- methods for and importance of reporting incorrect information, unsuitable building material resources, incoming defects and design variations
- elements associated with manual handling hazards and risks of completed timber building systems, including:
 - cut metal edges
 - exposed screw tips and nails
 - abrasion of insulation materials resting on metal edges
 - pinch points in connections
 - surfaces that can retain rainwater
- methods for sorting and storing waste materials.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a workstation on an assembly line for prefabricated timber building systems or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - specialised tools and material handling equipment for the operational activity
 - building materials and sub-assemblies related to different prefabricated timber building systems
 - PPE used in the off-site manufacture of prefabricated timber building systems
- specifications:
 - access to drawings, design documentation, production schedules and targets, method statements, risk assessments, workplace health and safety procedures, manufacturer information, certification for regulated building material and building regulations
 - access to emergency procedures
 - access to templates for documenting and reporting issues regarding product quality and time and process variations
- timeframes:
 - according to the time specified in the production schedule.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPTMM3209 Install prefabricated timber building systems on-site

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 4.0.

Application

This unit of competency describes the skills and knowledge required to position and connect panelised or modular prefabricated timber building systems safely and correctly during on-site installation.

The unit applies to individuals who work in the occupational area of installing prefabricated timber building structures. These include construction workers, carpenters or joiners and site supervisors. They generally work under broad or limited direction to complete routine activities related to their own work, and take responsibility for their work.

In order to undertake this unit, individuals must have a relevant trade qualification or equivalent.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No occupational licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Timber Manufactured Products

Elements and Performance Criteria

Elements	Performance Criteria
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<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Apply workplace health and safety during on-site installation	<p>1.1 Obtain all workplace health and safety information to ensure that activities are performed safely</p> <p>1.2 Identify workplace and task-specific hazards and report accidents, incidents or near misses during on-site installation according to workplace health and safety requirements to maintain a safe workplace</p> <p>1.3 Identify and use required risk-control and safety measures and equipment according to workplace health and safety requirements</p>
2. Plan and prepare for installation work	<p>2.1 Obtain and review relevant workplace information, including task instructions, drawings, design specifications, schedules and manufacturer information, and seek clarification if necessary</p> <p>2.2 Confirm installation timeframe and sequence with relevant stakeholders or personnel to meet design specifications and on-site work schedules</p> <p>2.3 Review drawings and design specifications to identify the type, location and quantity requirements for fixings, connections and bracing</p> <p>2.4 Check building structure, slab or floor area and report non-conformance as per workplace processes</p> <p>2.5 Select tools, auxiliary materials and equipment for the installation of prefabricated timber building systems as required, and set up equipment to meet safe work requirements</p> <p>2.6 Obtain information needed to ensure that the inspection, use, maintenance and storage of equipment comply with manufacturer directions</p> <p>2.7 Maintain appropriate ongoing communications and briefings with key stakeholders, including feedback and timeline reviews, for the duration of the installation</p>
3. Check prefabricated timber building systems logistics and storage on-site	<p>3.1 Ensure prefabricated timber building systems are delivered on-site in-line with the phase of the construction project and installation</p> <p>3.2 Ensure there is no risk of damage by weather (moisture), traffic or general construction to prefabricated timber building systems and that they are stored as close as practically possible to the construction site when storage is required</p> <p>3.3 Check prefabricated timber building systems, connections and support points for quantity, quality, tolerance compliance and conformance and damage upon delivery, and report issues to the appropriate personnel or according to operational requirements</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
4. Install prefabricated timber building systems	<p>4.1 Use tools and equipment safely and correctly according to operational requirements and manufacturer specifications to measure, mark out, level, finish and secure prefabricated timber building systems according to specifications</p> <p>4.2 Assist crane or dogger operators to lift prefabricated timber building systems in the sequential order and apply accurate placement and connection techniques to the required tolerances and specifications</p> <p>4.3 Check corners and walls to ensure they are accurately levelled, plumbed and squared according to specifications and operational requirements</p> <p>4.4 Check prefabricated timber building systems after installation against critical performance metrics and apply sealants as required to ensure compliance with fire, waterproofing and acoustic requirements and with design specifications</p> <p>4.5 Protect prefabricated timber building systems from damage and adverse weather conditions during the installation work and other worksite activities</p>
5. Complete installation	<p>5.1 Complete installation within the required timeframe and according to on-site work schedules</p> <p>5.2 Maintain and store hand and power tools, equipment and machinery according to operational requirements</p> <p>5.3 Keep work area and access areas free of debris and waste material according to operational requirements</p> <p>5.4 Record any quality checks and changes or variations applied to a prefabricated timber system during the on-site installation work, according to operational requirements and communicate the process</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Navigate the world of	<ul style="list-style-type: none"> Take responsibility for decisions made to meet design

Skill	Description
work	specifications and installation, storage and worksite requirements
Interact with others	<ul style="list-style-type: none"> • Understand what to communicate, with whom and how in routine work situations • Provide relevant information to others as required
Get the work done	<ul style="list-style-type: none"> • Take responsibility for planning and organising own workload • Assess effectiveness regarding how well the work was achieved and how closely the process followed the original plan and timeframes • Consider how to link with the work of others

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPTMM3209 Install prefabricated timber building systems on-site	Not applicable	New unit	No equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPTMM3209 Install prefabricated timber building systems on-site

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 4.0.

Performance Evidence

An individual demonstrating competency in this unit must satisfy all of the elements and performance criteria of this unit. There must be evidence that, on at least three occasions, the individual has installed prefabricated timber building systems on-site, for two or more panelised or modular prefabricated timber building system types, including:

- cross-laminated timber floor and wall systems
- post and beam systems (Glulam, laminated veneer lumber)
- panelised floor cassette systems
- panelised wall systems (including cladding, insulation, windows or doors)
- panelised and pre-finished wall systems (including above, electrical, mechanical, plumbing or lining)
- pre-finished and fully finished timber-based modules.

In doing the above, the individual has:

- complied with health and safety requirements and regulations applicable to workplace operations
- identified design requirements and installation sequence of prefabricated timber building systems
- identified and selected correct fittings, connections, tie-downs and braces for the installation of prefabricated timber building systems
- checked suitability of building structure, slab or floor area for the installation of prefabricated timber building systems
- applied workplace quality procedures and processes in the context of installing prefabricated timber building systems
- selected and used processes, tools and equipment for measuring, marking out, levelling and securing prefabricated timber building systems into place
- placed prefabricated timber building system safely, efficiently and to required tolerances and installed connectors to required specifications
- checked that walls and corners are accurately levelled, plumbed and square
- identified typical faults and problems and rectified faults
- communicated efficiently with others, exchanging feedback and timeline reviews.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- relevant current health and safety legislative obligations and workplace procedures as described in industry health and safety guides and site workplace health and safety plans
- hazards associated with the construction work and as identified through safe work method statements (SWMS), risk assessments, manufacturer technical information, regulations and industry health and safety guides, including but not limited to:
 - building systems and components
 - methods of work
 - waste material
 - risk of fire
 - power lines
 - cabling and plumbing
 - drains covered correctly
 - access and egress
- safety measures and equipment:
 - fire prevention and emergency procedures
 - evacuation procedure
 - signs and barricades
 - personal protective equipment (PPE)
 - fall prevention and fall arrest equipment
 - other methods for reducing the risk from fire and other hazards on a construction site as defined in the National Construction Code and site safety plan
- types of task-specific documents, their source, information included and how they are read and interpreted with reference to:
 - drawings
 - design specifications
 - on-site workflow, schedules and targets
 - method statements
 - risk assessments
 - progress charts and timetables
 - manufacturer information
 - product certifications
 - building regulations
- basic design and offsite manufacture processes for prefabricated timber building systems for recognising problems that arise from missing information, damaged or faulty prefabricated timber building systems and understanding methods to resolve them
- installation design specifications for different prefabricated timber building systems with reference to:

- installation sequence
- lifting equipment, support connections and techniques
- bracing techniques
- technical properties and specific requirements of materials, elements, components, insulations and connections
- mechanical fixings, tie-downs and braces, connection strengths and installation tolerances
- building checks before prefabricated timber building system installation and the importance of checking
- testing and checking of prefabricated timber building systems for quality assurance:
 - required tests for different prefabricated timber building system and methods to undertake them
 - test sampling and frequency of testing within a managed process
- specialised tools and equipment for installation and fixing of different prefabricated timber building systems and methods of operation
- methods for measuring and calculating the quantity, length, area, centre of gravity and mass of different prefabricated timber building systems for lifting and installation operations
- techniques for accurate placement of prefabricated timber building systems before the full installation
- problems or faults related to prefabricated timber systems, including materials, components, connections or insulations that arise from on-site installation and impact on structural, fire and acoustic performance of the system
- critical performance metrics used in the on-site installation operations of prefabricated timber building systems regarding quality, cycle time, productivity and inventory
- methods for reporting:
 - circumstances that affect the work cycle time
 - quality checks
 - product changes or variations during installation
- maintenance and servicing requirements for tools and equipment as outlined in workplace procedures or manufacturer manual
- waste management procedures regarding safe disposal and recycling.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a construction site or environment that accurately represents workplace conditions
- resources, equipment and materials:
 - specialised tools and equipment for installation and fixing of prefabricated timber building systems
 - prefabricated timber building systems, components, sections and fittings

- PPE, signs and barricades, fall prevention and fall arrest equipment used in building construction operations
- specifications:
 - access to workplace health and safety policies, SWMS, emergency procedures, fire safety plans, drawings, design specifications, on-site workflow, schedules and targets, work method statements, risk assessments, manufacturer information and operating instructions for specialised tools and equipment, product certifications and building regulations
- relationships:
 - team member(s) including licenced crane operator and licenced dogger to lift prefabricated timber building systems
- timeframes:
 - according to time specified in job sheet.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

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FWPTMM5202 Develop, trial and evaluate prototypes

Modification History

Release	Comments
Release 2	This version released with FWP Forest and Wood Products Training Package Version 3.0.
Release 1	This version released with FWP Forest and Wood Products Training Package Version 2.0.

Application

This unit of competency describes the outcomes required to develop, from design concepts, detailed prototype construction plans, specifications and work orders for use during trial construction phase. It also covers the outcomes required to coordinate the construction of prototypes and to complete evaluation and reporting requirements. Work is completed in a forest products factory setting.

The unit applies to Designer (Manufacturing and Engineered Wood Products), Production Manager (Timber Truss & Frame), Designer (Timber Truss & Frame)

No licensing, legislative, regulatory, or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Timber Manufactured Products

Timber Merchandising

Elements and Performance Criteria

Element	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the range of conditions.</i>

1. Develop prototype specifications	<p>1.1 Access and interpret design concepts or specifications.</p> <p>1.2 Prepare and document detailed prototype construction plans, specifications and work order for use during trial construction phase.</p> <p>1.3 Specify prototype purpose and outline requirements from design concepts or customer requirements.</p> <p>1.4 Complete a detailed analysis of options for materials and construction in line with organisational procedures and environmental protection practices.</p> <p>1.5 Specify construction materials, requirements and methods based on option selected.</p>
2. Plan and prepare prototype for construction	<p>2.1 Source materials and hardware and other resources in line with site procedures and budgetary limits.</p> <p>2.2 Assess and select suitable resources in line with options for materials detailed in prototype construction plan and specifications.</p> <p>2.3 Source and select appropriate tools and equipment and check for operational effectiveness in line with manufacturer's recommendations.</p> <p>2.4 Plan and document stages of the construction process.</p> <p>2.5 Source, construct or prepare set-up jigs required for construction.</p>
3. Produce the prototype	<p>3.1 Monitor construction process to ensure construction plan is followed.</p> <p>3.2 Ensure problems, issues, modifications and improvements are documented.</p> <p>3.3 Analyse information in reports completed by construction personnel on prototype construction processes, problems, effectiveness of purpose and efficiency of construction methods.</p> <p>3.4 Identify modifications or improvements to design and construction plan arising from construction of the prototype.</p> <p>3.5 Evaluate results of construction process and make recommendations for future construction.</p>
4. Trial and evaluate the prototype	<p>4.1 Develop and document specific trial objectives and processes.</p> <p>4.2 Inform personnel involved in the trial and evaluation of their responsibilities and functions.</p> <p>4.3 Work with construction personnel to prepare and certify trial equipment, tools and materials prior to use.</p> <p>4.4 Complete prototype trials in consultation with construction personnel.</p> <p>4.5 Evaluate trial results, determine and document recommendations</p>

	<p>for future production.</p> <p>4.6 Maintain accurate records of trial and evaluation in line with organisational procedures.</p>
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Foundation Skills

This section describes those core and employment skills that are essential to performance and are not explicit in the performance criteria.

Learning skills to:	<ul style="list-style-type: none"> experiment with prototypes and evaluate trial outcomes to inform new production possibilities.
Numeracy skills to:	<ul style="list-style-type: none"> calculate detailed dimension specifications for prototypes and clearly represent in construction plans.
Oral communication skills to:	<ul style="list-style-type: none"> provide clear and unambiguous production instructions to others consult with and seek feedback from other personnel involved in trials.
Reading skills to:	<ul style="list-style-type: none"> interpret detailed and unfamiliar design concepts and reports on construction processes and problems.
Writing skills to:	<ul style="list-style-type: none"> produce unambiguous construction plans, specifications and work orders in a style and format easily understood by construction team clearly and accurately report on evaluations of trial results clearly represent rationale for recommended changes to future production requirements.
Planning and organising skills to:	<ul style="list-style-type: none"> efficiently and logically manage operational logistics for production trials.
Problem-solving skills to:	<ul style="list-style-type: none"> analyse construction problems, consider various solutions and determine recommended changes.
Teamwork skills to:	<ul style="list-style-type: none"> take a lead role in managing a team of construction personnel.
Technology skills to:	<ul style="list-style-type: none"> use a computer, keyboard and software to prepare construction plans, specifications, work orders and trial reports.

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPTMM5202	FWPTMM5202	Minor typographical errors	Equivalent

Code and title current version	Code and title previous version	Comments	Equivalence status
Develop, trial and evaluate prototypes Release 2	Develop, trial and evaluate prototypes Release 1	corrected.	unit

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPTMM5202 Develop, trial and evaluate prototypes

Modification History

Release	Comments
Release 2	This version released with FWP Forest and Wood Products Training Package Version 3.0.
Release 1	This version released with FWP Forest and Wood Products Training Package Version 2.0.

Performance Evidence

A person demonstrating competency in this unit must satisfy all of the elements, performance criteria and foundation skills of this unit. If a specific volume or frequency is not stated below, then evidence must be provided that the following requirements have been performed on at least one occasion:

- coordinate the construction and trialling of at least two prototypes/samples from the following sample list:
 - roof, wall and floor frames/trusses
 - staircases
 - door and window frames
 - structural beams
 - specialised pallets or crates
- develop, for each, an individual construction plan and work order to include details of:
 - construction methods and sequence
 - materials to be used and quantities
 - tools and equipment to be used
 - labour requirements
- evaluate trial results, for each prototype, and complete a detailed and accurate report for each, covering:
 - strength
 - durability
 - operational effectiveness against purpose
 - efficiency of construction methods
 - impact of the production process on the environment
 - recommendations for future production processes.
 -

Knowledge Evidence

A person competent in this unit must be able to demonstrate knowledge of:

- prototype trialling and evaluation processes
- features, at an in-depth level of understanding, of timber products subject to trial and evaluation:
 - product purpose
 - options for materials
 - construction componentry and standards
 - construction methods and sequence
 - types of tools and equipment used for construction
- impacts of production process on the environment and environmental protection practices for:
 - reducing water and energy use
 - cleaning of plant, tools and equipment
 - disposing of, recycling and reusing timber and other waste
- certification requirements for trial equipment, tools and materials used during construction phase
- format, content and use of:
 - construction plans and specifications
 - work orders
 - reports evaluating trial outcomes
- organisational standards, policies and procedures for trialing and evaluating prototypes:
 - communication reporting lines for team involved in trials
 - certifying trial equipment, tools and materials
 - documenting plans and reports.

Assessment Conditions

The following resources must be made available:

- computers, keyboards and industry current software programs used to produce construction plans, work orders and reports evaluating trial outcomes
- comprehensive information about the design concept
- templates for:
 - construction plans and specifications
 - work orders
 - reports evaluating trial outcomes
 - certification documents
- relevant personnel for the purposes of communicating information
- organisational standards, policies and procedures for trialing and evaluating prototypes.

Competency is to be assessed in the workplace or a simulated environment that accurately reflects performance in a real workplace setting.

Assessor requirements

Assessors must:

- hold the appropriate assessor competency standards as outlined in regulations; and
- be able to demonstrate vocational competencies at least to the level being assessed; and
- be able to demonstrate how they are continuing to develop their VET knowledge and skills as well as maintaining their industry currency and assessor competence.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPTMM5209 Determine prefabricated timber building systems designs for compliance, manufacture and installation

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 4.0.

Application

This unit of competency describes the skills and knowledge required to determine design solutions for panelised and/or modular prefabricated timber building systems to meet structural and safety compliance, off-site manufacture and on-site installation. The main job functions are to facilitate collaborative design and achieve detailed and integrated design solutions for prefabricated timber building systems.

The unit applies to individuals who work as designers in a building design team. These include architects, design engineers, draftspersons, structural engineers, building services engineers, architectural technicians and timber systems designers from manufacturing plants. They demonstrate in-depth knowledge in a specific technical area and analyse, design and communicate solutions to sometimes complex problems.

In order to undertake this unit, individuals must have a relevant building design qualification or equivalent.

No occupational licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Timber Manufactured Products

Elements and Performance Criteria

Elements	Performance Criteria
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<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
<p>1. Interact with supply chain stakeholders to design prefabricated timber building systems</p>	<p>1.1 Communicate with the developer during the design process to ensure that prefabricated timber building system is fully fit for purpose and meets client functional requirements</p> <p>1.2 Use Building Information Modelling (BIM) system or similar and conduct further collaborative analysis with the fabricator, builder, component suppliers and regulators to achieve a design configuration that allows for lean processes during all stages of timber building system life cycle, meets regulations and does not complicate other design considerations</p> <p>1.3 Ensure that the design accounts for fabrication capabilities</p> <p>1.4 Implement a continuous improvement process during the design life of prefabricated timber building system to report, record and resolve issues</p>
<p>2. Determine design solutions and specifications for structural compliance</p>	<p>2.1 Identify the National Construction Code (NCC) Performance Requirements for structural robustness, which the prefabricated timber building system and its components need to satisfy</p> <p>2.2 Discuss structural design actions with appropriate stakeholders to ensure that the prefabricated timber building system meets the minimum NCC structural requirements and performs without risks when used as intended through its design life</p> <p>2.3 Obtain experimental and observational data for the strength of materials, structural components, connections or assemblies to determine design values, and consult with appropriate engineers to indicate the actual robustness and reliability of the physical building system</p> <p>2.4 Contribute to the design verification for structural compliance and process documentation according to the NCC, standards and codes to facilitate design certification and approvals</p> <p>2.5 Determine durability requirements for the materials of prefabricated timber building system according to the nominated design life and planned maintenance, and ensure that they are specified in design documentation for prefabricators</p>
<p>3. Determine design solutions and specifications for safety compliance</p>	<p>3.1 Determine early in the design process hazards to health and safety during all stages of prefabricated timber building system life cycle according to the workplace health and safety laws, regulations and the NCC</p> <p>3.2 Determine and apply health and safety design control measures according to standards, codes and technical guides to eliminate or minimise health and safety risks during all stages of prefabricated</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>timber building system life cycle</p> <p>3.3 Verify design documentation and ensure that health and safety provisions are specified for all stages of prefabricated timber building system life cycle according to standards, codes and technical guides</p> <p>3.4 Verify design documentation and ensure that detailed maintenance provisions are specified for all components of the prefabricated timber building system being designed according to its intended functions</p>
4. Determine design solutions and specifications for services	<p>4.1 Identify the NCC Performance Requirements for fire resistance and acoustic and thermal properties, which the prefabricated timber building system and its components need to satisfy</p> <p>4.2 Verify design documentation and ensure that intended materials, separations, insulations, fire warnings and fire-fighting management systems are specified for the required fire, acoustic, thermal and waterproofing performance according to standards, codes and technical guides</p> <p>4.3 Use design control actions to mitigate any possible effects of transportation, handling, on-site installation or maintenance on the integrity of intended connections, insulations or materials</p> <p>4.4 Determine early in the design phase where points of entry are required in the prefabricated timber building system, components and materials for services installation</p> <p>4.5 Verify design documentation and ensure that installation and connections provisions are specified for each service according to standards, codes and technical guides</p> <p>4.6 Ensure that all tolerances for the prefabricated timber building system and its components are specified in the design specifications according to standards to facilitate off-site manufacture and on-site installation</p> <p>4.7 Verify and ensure that approval and compliance certification for installation of services, partitions and floor elements are performed to the appropriate standards for thermal, acoustic and fire performance and according to local requirements before on-site installation</p>
5. Determine design solutions and specifications for transportation and on-site installation	<p>5.1 Determine maximum dimensions and weight for the building system being designed to meet restrictions provided by vehicles, lifting plants, road configuration around the construction site and local regulations</p> <p>5.2 Ensure that lifting requirements are specified for all stages of the prefabricated timber building system life cycle in the design</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>documentation, and they are according to the NCC to facilitate and maintain prefabricated timber building system integrity and adequate performance</p> <p>5.3 Determine the effects of cargo restraints and exposure to acceleration forces on the strength (structural attributes) of prefabricated timber building system during transportation, and use design control actions to allow for the forces applied</p> <p>5.4 Verify the design and ensure that necessary restraint conditions during transport and residual risks to the prefabricated timber building systems resulting from transportation are specified</p> <p>5.5 Ensure that the sequence for the installation of prefabricated timber building systems and components is specified in design documentation</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Oral communication	<ul style="list-style-type: none"> Communicate information verbally about complex, detailed technical design information
Numeracy	<ul style="list-style-type: none"> Conduct complex structural design calculations
Navigate the world of work	<ul style="list-style-type: none"> Monitor adherence to legal and industry standards and responsibilities
Interact with others	<ul style="list-style-type: none"> Identify the perspectives of others as part of work role Seek specialist input into problem-solving and decision-making
Get the work done	<ul style="list-style-type: none"> Use three-dimensional models, BIM or computer-aided design tools to design, monitor design processes and access and organise complex design data

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPTMM5209 Determine prefabricated timber building systems designs for compliance, manufacture and installation	Not applicable	New unit	No equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPTMM5209 Determine prefabricated timber building systems designs for compliance, manufacture and installation

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 4.0.

Performance Evidence

An individual demonstrating competency in this unit must satisfy all of the elements and performance criteria of this unit. There must be evidence that the individual has assessed complete sets of timber building design documentation for two construction projects relating to different classes of buildings that, as defined in the National Construction Code (NCC), allow the use of one or more panelised or modular prefabricated timber building system types, including:

- cross-laminated timber floor and wall systems
- post and beam systems (Glulam, laminated veneer lumber)
- panelised floor cassette systems
- panelised wall systems (including cladding, insulation, windows or doors)
- panelised and pre-finished wall systems (inclining above, electrical, mechanical, plumbing or lining)
- pre-finished and fully finished timber-based modules

In doing the above, the individual has:

- determined and confirmed with stakeholders whether the design is fit for purpose and meets capabilities within the supply chain regarding prefabrication, storage, transportation and on-site installation
- determined the compliance requirements of physical prefabricated timber building system for:
 - structural robustness
 - durability
 - fire resistance and acoustic and thermal properties
 - health and safety hazards during all stages of the life cycle
 - transportation
- assessed whether the design provides adequate solutions to meet all compliance requirements, determining design actions according to standards to fill the design gaps

- verified design considerations regarding services installation and mitigation of possible effects during transportation, handling, on-site installation or maintenance
- verified the level of provisions in design documentation to demonstrate or specify:
 - structural compliance
 - health and safety information for each stage of prefabricated timber building system life cycle
 - prefabricated timber building system and components maintenance during prefabricated timber building system design life
 - materials, separations, insulations, fire warnings, a fire-fighting management system for required fire, acoustic, thermal and waterproofing performance
 - installation and connections requirements for each service
 - tolerances for prefabricated timber building system and its components
 - lifting requirements for each stage of prefabricated timber building system life cycle
 - restraint conditions during transportation
 - installation sequence for prefabricated timber building systems and components.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- basic uses of BIM (Building Information Modelling) software or similar for sharing and coordinating information among stakeholders during the prefabricated timber building system life cycle
- principles of collaborative design analysis:
 - Design for Manufacture and Assembly
 - lean processes (off-site manufacture, storage, transportation and on-site installation)
 - Failure Mode and Effects Analysis
- readily available prefabrication technologies for different types of prefabricated timber building systems (two- and three-dimensional) and components including:
 - structural timber
 - cross-laminated timber
 - laminated veneer lumber
 - Glulam
 - I-Joists
 - floor trusses
 - services
 - windows, glazing and plasterboard
- relevant legislation, standards and technical design guides or codes for:
 - structural design of prefabricated timber buildings and systems
 - implementation of safe design principles
 - installation of hydraulic, electrical, mechanical, fire protection and acoustic systems

- transportation restrictions and load restraint requirements
- NCC Performance Requirements for prefabricated timber building systems as classified via their function:
 - structural robustness
 - structural safety
 - fire resistance, thermal performance and acoustic performance
- elements of valid approval and compliance processes with reference to:
 - NCC assessments, calculations and evidence requirements for controlling the risk of structural failure and safety
 - fire, acoustic, thermal resistance and waterproofing of prefabricated timber building systems for complying with standards
- considerations and industry-accepted design solutions for prefabricated timber building systems (including structural and non-structural timber components and connections) as required by NCC, standards and technical design guides for:
 - structural robustness, verification methods and traceability of risks
 - structural durability with reference to environmental and specific conditions affecting durability of timber components and connections, high-risk areas within the building structure (including bathroom and external walls), specific hazards (particularly insect and fungal attack, weathering, moisture exposure and fire) and solutions considering preservative treatments, moisture contents, weatherproofing insulations and cladding
 - fire engineering measures, sound propagation and thermal resistance with reference to structural deflection of fire-rated elements and use of fire, vibrational/acoustical and thermal insulations; relevant design procedure for joint/connections involving timber structures to retain the integrity of insulation, material and system while considering effects of transport, handling and installation processes on connections
 - acceptable tolerances for material quality, off-site manufacture and on-site installation
 - services installation including hydraulic, electrical, mechanical, fire protection and acoustic systems
 - health and safety risks about the off-site manufacture, storage, transportation, on-site installation, use and maintenance of prefabricated timber building system
 - transportation and lifting requirements with reference to different load characteristics and appropriate road trucks and cranes or lifting plants, factors influencing lifting stability, behaviour/fatigue of timber and connections to temporary lifting loads, load restraint methods and friction factors affecting strength resistance and structural response of prefabricated timber building system
- design provisions and technical specifications as required by the Safe Design of Structures Code of Practice, NCC and other standards and technical guides for any person who carries out work activities in relation to a prefabricated timber building system:
 - health and safety provisions
 - connections specifications
 - design tolerances and specifications
 - thermal, acoustic and fire compliance provisions
 - transport and handling modes including lifting and stacking specifications

- installation sequencing provision
- maintenance provision.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- resources, equipment and materials:
 - timber building design documentation for two construction projects relating to different classes of buildings that allow the use of panelised or modular prefabricated timber building systems
 - computer with internet access and BIM software that is currently used in building design practices to view and print three-dimensional models, finite element models, two-dimensional computer-aided design drawings and design documentation
 - access to current legislation, standards, codes and technical design guides relevant to prefabricated timber building systems
- specifications:
 - access to relevant codes, standards and government regulations.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPTMM5210 Verify compliance and conformance of prefabricated timber building systems during manufacture

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 4.0.

Application

This unit of competency describes the skills and knowledge required to verify physical performance and compliance liability of panelised or modular prefabricated timber building systems and components during off-site manufacturing to ensure that delivered product matches the design specifications and regulatory obligations.

The unit applies to individuals who work as compliance officers, supervisors or managers in a prefabricated timber building systems manufacturing plant. Such individuals demonstrate deep knowledge in a specific technical area and analyse, design and communicate solutions to sometimes complex problems.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

No occupational licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Timber Manufactured Products

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to verify prefabricated timber building systems and components	<p>1.1 Obtain and confirm production schedule, design documentation, plans, requirements, workplace health and safety requirements and established procedures relevant to the off-site manufacturing order</p> <p>1.2 Identify certification and compliance requirements for prefabricated timber building system, components, materials and in-built services from design specifications or appropriate codes and standards</p> <p>1.3 Identify tolerances for material quality, physical dimensions and service connections from design specifications</p> <p>1.4 Prioritise and sequence verification work according to production schedules for completion within established timeframes</p> <p>1.5 Consult appropriate personnel, testers and certifiers to coordinate verification work efficiently</p>
2. Conduct verification for compliance and conformance	<p>2.1 Verify that connections, structural components and physical dimensions of timber framing structure are appropriate for grade, thickness, tolerances and choice of materials according to minimum specified design requirements before installation services</p> <p>2.2 Verify that provisions have been made for components including hydraulics, electrical and heating, ventilation, air conditioning mechanical services and plumbing</p> <p>2.3 Ensure that partition/walls or floor elements are assembled according to design specifications, local codes and standards for minimising or eliminating continuity issues in the final, installed prefabricated timber building system</p> <p>2.4 Verify regulated components including fire-rated walls or fire protection systems for conformance with performance requirements of relevant codes, standards and design specifications, and ensure that damage is minimised within the manufacturing environment</p> <p>2.5 Ensure that any variations of material properties or system component decided during the off-site manufacture meet performance, design specification, relevant codes and standards</p> <p>2.6 Ensure that off-site installation of services conform to the appropriate local standards and are approved before delivery to the construction site</p> <p>2.7 Verify completed prefabricated timber building system to ensure that delivered product is safe for manual handling and meets design specifications and regulatory requirements</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
3. Report verification findings	<p>3.1 Identify and report non-compliance and non-conformance issues according to established procedures</p> <p>3.2 Make recommendations for rectifying compliance and conformance issues according to established procedures</p> <p>3.3 Document completion of verification work according to established procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Read workplace documents that range in complexity
Navigate the world of work	<ul style="list-style-type: none"> Apply knowledge of regulations, codes and standards relevant to compliance of prefabricated timber building systems Monitor adherence to legal and industry standards and responsibilities
Interact with others	<ul style="list-style-type: none"> Understand what to communicate, with whom and how in routine work situations Provide relevant information to others as required
Get the work done	<ul style="list-style-type: none"> Take responsibility for planning and organising own workload Consider how to link own work with the work of others

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPTMM5210 Verify compliance and conformance of prefabricated	Not applicable	New unit	No equivalent unit

timber building systems during manufacture			
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Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPTMM5210 Verify compliance and conformance of prefabricated timber building systems during manufacture

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 4.0.

Performance Evidence

An individual demonstrating competency in this unit must satisfy all of the elements and performance criteria of this unit. There must be evidence that, on at least three occasions, the individual has verified compliance and conformance of prefabricated timber building systems during manufacture for one or more of the following panelised or modular prefabricated timber building system types:

- cross-laminated timber floor and wall systems
- post and beam systems (Glulam, laminated veneer lumber)
- panelised floor cassette systems
- panelised wall systems (including cladding, insulation, windows or doors)
- panelised and pre-finished wall systems (inclining above, electrical, plumbing, mechanical or lining)
- pre-finished and fully finished timber-based modules

In doing the above, the individual has:

- implemented workplace health and safety procedures and practices during the compliance and conformance verification operation
- prioritised verification work according to production schedules
- verified relevant documentation and conducted audits correctly and efficiently against design specifications, local codes and standards for any of the following:
 - connections, structural components and physical dimensions of timber framing structure regarding grade, thickness, tolerances and choice of materials
 - services equipment including hydraulic, electrical and heating, ventilation, and air conditioning (HVAC) mechanical
 - partition/walls or floor elements of the structure
 - fire-rated walls or fire protection systems
 - variations of material properties or system component from design specifications
 - off-site installation of services
 - completed timber building system

- identified non-conformant or non-compliant components of timber building systems
- recommended appropriate corrective actions
- reported legibly and accurately.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- workplace health and safety procedures and practices related to the work activity
- provisions for components including hydraulics, electrical and HVAC mechanical services and plumbing
- verification procedures for product compliance and conformance in the manufacture of prefabricated timber building systems
- elements of valid and efficient manufacturing inspections, verifications and certification processes as outlined in national and international standards
- methods of verifying product quality (actual versus claimed quality) and compliance with the National Construction Code in regards to Performance Requirements
- certification requirements for thermal, acoustic and fire performance of partition and floor elements
- fire rating testing techniques
- certification requirements for hydraulics, electrical and HVAC mechanical services according to standards and manufacturer requirements
- hazards and risks associated with manual handling of prefabricated timber building systems that generally arise from off-site manufacture, including:
 - cut metal edges
 - exposed screw tips and nails
 - abrasion of insulation materials resting on metal edges
 - pinch points in connections
 - surfaces that can retain rainwater
- inspection reports and sign-off procedures as accepted by the industry or established within the workplace.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a workplace or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - computers, keyboards, printers and software used to produce and maintain compliance system records and reports
- specifications:
 - access to industry-specific compliance standards and design documentation

- access to production schedules
- access to comprehensive real or simulated certificates, test documentation and product/manufacture specifications
- access to template inspection reports
- access to workplace policies and procedures for documenting and signing off inspections of product compliance and conformance.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

CPPSSI4038 Prepare and present GIS data

Modification History

Release 1 This version first released with CPP Property Services Training Package Release 12.0.

This unit supersedes and is equivalent to CPPSIS4038 Prepare and present GIS data.

Application

This unit specifies the skills and knowledge required to prepare and present a range of geographic information system (GIS) data using various media. It includes translating client requirements into appropriate data formats and design and layout. The unit also includes gathering feedback as the basis for implementing quality improvements.

This unit is suitable for entry-level technicians who use a broad range of cognitive, technical and communication skills to select and apply a range of methods, tools, materials and information to complete routine and non-routine activities and provide and transmit solutions to a variety of predictable and sometimes unpredictable problems.

Surveying and spatial information skills are applied in a range of industry contexts, including town planning, civil construction, mining, engineering, health, agriculture and defence.

All work must be carried out to comply with workplace procedures, in accordance with relevant state/territory regulations that govern surveying work, as well as work health and safety (WHS) legislation and regulations that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil.

Unit Sector

Surveying and Spatial Information Services

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe what needs to be done to demonstrate achievement of the element.

- 1 Plan for GIS data presentation.
 - 1.1 Identify intended use of output and presentation requirements in consultation with appropriate persons.
 - 1.2 Assess format, content and extent of data against task and organisational requirements.
 - 1.3 Access and compile spatial datasets from appropriate sources to meet presentation specifications.
 - 1.4 Comply with administrative and legislative requirements for accessing and displaying spatial data, including data privacy, copyright and licensing.
 - 1.5 Comply with organisational requirements for WHS when using screen-based equipment.

- 2 Prepare GIS data for presentation.
 - 2.1 Interpret metadata statements for compliance with licensing.
 - 2.2 Query spatial data and select data for display to meet presentation requirements.
 - 2.3 Check formatted data and resolve problems of data compatibility and quality according to display specifications.
 - 2.4 Identify display file format to meet task specifications.

- 3 Finalise GIS data presentation.
 - 3.1 Present spatial data according to task, client requirements and organisational requirements.
 - 3.2 Obtain feedback on display from appropriate persons.
 - 3.3 Analyse feedback to identify improvements and adjust display to meet task and organisational requirements.
 - 3.4 Document improvements applied to presentation design.
 - 3.5 Complete documentation in accordance with organisational requirements.

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Supersedes and is equivalent to CPPSIS4038 Prepare and present GIS data.

Links

Companion volumes to this training package are available at the VETNet website - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6f3f9672-30e8-4835-b348-205dfcf13d9b>

Assessment Requirements for CPPSSI4038 Prepare and present GIS data

Modification History

Release 1 This version first released with CPP Property Services Training Package Release 12.0.

This unit supersedes and is equivalent to CPPSIS4038 Prepare and present GIS data.

Performance Evidence

To demonstrate competency a candidate must meet the elements and performance criteria of this unit by preparing and presenting geographic information system (GIS) data for two different projects.

Each project must incorporate:

- the built or natural environment
- two different data sets
- both vector and raster data
- map with standard symbology, presentation and metadata.

Knowledge Evidence

To be competent in this unit a candidate must demonstrate knowledge of:

- administrative and legislative requirements for accessing and presenting digital and hard copy GIS data, including data privacy, copyright and licensing
- sources of GIS data
- GIS data file formats
- Australia New Zealand Land Information Council (ANZLIC) metadata fields relating to accuracy, currency, extent, availability and datasets
- components of map design principles
- organisational requirements for preparing and displaying GIS data.

Assessment Conditions

Assessors must meet the requirements for assessors contained in the Standards for Registered Training Organisations.

Competency is to be assessed in the workplace or a simulated environment that accurately reflects performance in a real workplace setting where these skills and knowledge would be performed.

Candidates must have access to:

- computer and suitable software
- high resolution hardware, including plotter or printer and computer screen.

Links

Companion volumes to this training package are available at the VETNet website -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6f3f9672-30e8-4835-b348-205dfcf13d9b>

CPPWMT3002 Conduct waste resource recovery

Modification History

Release 1 This version first released with CPP Property Services Training Package Release 10.0.

Supersedes but is not equivalent to:

- CPPWMT3014A Manually sort waste.
- CPPWMT3019A Prepare waste for re-use.
- CPPWMT3046A Conduct resource recovery.

Application

This unit specifies the skills and knowledge required to recover resources from waste streams. It includes sorting waste according to waste pathways, identifying and segregating waste products able to be re-used, collating waste resources using mechanical separation technologies, and storing and monitoring recovered resources to maintain quality and product integrity.

A person who achieves this unit of competency is expected to take responsibility for completing these tasks with a high degree of self-direction.

This unit forms part of the licensing requirements for operating plant and equipment used in waste management. For further information, check with the relevant regulatory authority.

Pre-requisite Unit

Nil.

Unit Sector

Waste management

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe what needs to be done to demonstrate achievement of the element.

1 Prepare to recover waste resources.

1.1 Review job schedule to confirm work activities for waste resource recovery and clarify issues with relevant persons.

- 1.2 Review workplace policies and procedures and work health and safety (WHS) requirements for waste recovery and apply to work tasks.
 - 1.3 Select, check and use personal protective equipment appropriate for work activities.
 - 1.4 Identify hazards and risks associated with work activities and implement required controls according to WHS requirements.
 - 1.5 Set up waste sorting areas according to workplace requirements.
 - 1.6 Conduct pre-start and basic maintenance checks, following manufacturer instructions, of plant and equipment required to sort and separate waste.
- 2 Identify and separate resources from waste.
- 2.1 Identify and segregate waste according to waste pathways and identify waste products able to be recovered.
 - 2.2 Operate plant and equipment to sort and collate waste resources according to waste types.
 - 2.3 Place separated waste into fit-for-purpose containers or areas according to workplace requirements.
 - 2.4 Monitor waste containment to ensure adequate available storage.
- 3 Store and monitor waste product and calculate charges.
- 3.1 Store recovered waste products ensuring quality is maintained and contamination prevented.
 - 3.2 Monitor containment to ensure integrity of waste containers.
 - 3.3 Calculate waste product charges according to workplace requirements.
- 4 Finalise resource recovery and complete
- 4.1 Shut down and secure plant and equipment following manufacturer instructions.

- documentation.
- 4.2 Dispose of waste products not claimed within designated holding period according to workplace requirements.
 - 4.3 Complete recovery documentation according to workplace requirements.
 - 4.4 Clean and maintain sorting site, plant and equipment according to workplace requirements.

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Supersedes but is not equivalent to:

- CPPWMT3014A Manually sort waste.
- CPPWMT3019A Prepare waste for re-use.
- CPPWMT3046A Conduct resource recovery.

Links

Companion volumes to this training package are available at the VETNet website - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6f3f9672-30e8-4835-b348-205dfcf13d9b>

Assessment Requirements for CPPWMT3002 Conduct waste resource recovery

Modification History

Release 1 This version first released with CPP Property Services Training Package Release 10.0.

Supersedes but is not equivalent to:

- CPPWMT3014A Manually sort waste.
- CPPWMT3019A Prepare waste for re-use.
- CPPWMT3046A Conduct resource recovery.

Performance Evidence

To demonstrate competency, a candidate must meet the performance criteria of this unit by conducting waste resource recovery operations on two separate occasions.

Knowledge Evidence

To be competent in this unit, a candidate must demonstrate knowledge of:

- circular economy and objectives to maximise value from resources in the economy
 - legislative and procedural requirements applicable to waste resource recovery and relevant to the workplace:
 - commonwealth, state and territory legislation and regulations in the state or territory of operation including work health and safety (WHS)
 - environmental protection
- procedures for setting up sorting sites
- resource recovery options
- techniques for collating waste resources using mechanical separation technologies
- types of facilities that process recovered resources:
 - material recovery facilities
 - alternative waste treatment facilities
 - recycling facilities
 - garden organics processing facilities
- types of materials that can be recovered from waste and re-used or processed by recycling, composting and waste-to-energy generation
- types of non-conforming waste relevant to operational requirements of workplace:
 - contaminated waste
 - inferior quality and unacceptable waste streams

- typical hazards encountered when sorting and separating waste
- waste hierarchy and the importance of waste avoidance and resource recovery
- waste types and pathways
- workplace policies and procedures for conducting waste resource recovery:
 - documentation and reporting
 - WHS:
 - hazard identification, risk assessment and control using the hierarchy of control
 - injury, dangerous occurrence and incident reporting
 - personal protective equipment.

Assessment Conditions

Assessors must meet the requirements for assessors contained in the Standards for Registered Training Organisations.

Assessment must be conducted in the workplace or in a simulated workplace using realistic workplace conditions, materials, activities, responsibilities, procedures, safety requirements and environmental considerations.

Candidates must have access to workplace policies and procedures, job schedules, documentation, waste, plant and equipment required to achieve the performance evidence.

Links

Companion volumes to this training package are available at the VETNet website - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6f3f9672-30e8-4835-b348-205dfcf13d9b>

CPPWMT4003 Implement waste management plans

Modification History

Release 1 This version first released with CPP Property Services Training Package Release 10.0.

Supersedes and is equivalent to CPPWMT4007A Implement waste management plans.

Application

This unit specifies the skills and knowledge required to implement waste management plans. It includes allocating and organising resources to implement waste management objectives and manage hazards and risks, monitoring implementation to ensure compliance against procedures and required activities, and reviewing and updating plans to incorporate improvements.

A person who achieves this unit of competency is able to use specialised knowledge to complete routine and non-routine tasks and deal with predictable and sometimes unpredictable problems.

No licensing, legislative or certification requirements apply to this unit of competency at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Waste management

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe what needs to be done to demonstrate achievement of the element.

- | | | |
|---|-----|--|
| 1 Organise and allocate resources to implement waste management plan. | 1.1 | Review waste management plan to clarify resource requirements and waste management objectives. |
| | 1.2 | Review workplace policies and procedures, legislation and regulations and apply requirements to waste management objectives. |

- 1.3 Organise equipment and personnel required to implement waste management plan according to workplace requirements.
 - 1.4 Manage waste management hazards and risks according to risk management strategy detailed in waste management plan.
 - 1.5 Plan and schedule specified activities to implement waste management plan.
- 2 **Oversee waste management objectives and activities.**
 - 2.1 Supervise waste management activities to ensure compliance with waste management plan and apply contingency measures to respond to changing circumstances.
 - 2.2 Provide guidance and information to relevant persons to support efficiency and ensure waste management plan activities and objectives are achieved.
 - 2.3 Monitor progress against waste management objectives and take actions required to ensure activities are implemented in line with waste management plan.
- 3 **Monitor implementation of waste management plan.**
 - 3.1 Review effectiveness of waste management plan in meeting waste management objectives.
 - 3.2 Seek feedback from relevant persons on effectiveness of waste management plan and identify improvements.
 - 3.3 Provide recommendations to update waste management plan to relevant persons.

Foundation Skills

Unit Mapping Information

Supersedes and is equivalent to CPPWMT4007A Implement waste management plans.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6f3f9672-30e8-4835-b348-205dfcf13d9b>

Assessment Requirements for CPPWMT4003 Implement waste management plans

Modification History

Release 1 This version first released with CPP Property Services Training Package Release 10.0.

Supersedes and is equivalent to CPPWMT4007A Implement waste management plans.

Performance Evidence

To demonstrate competency, a candidate must meet the performance criteria of this unit by:

- implementing a waste management plan that achieves waste management objectives involving two of the following:
 - carbon emissions reduction
 - traffic congestion reduction
 - waste avoidance
 - waste minimisation
 - waste recovery and recycling
- monitoring implementation of waste management plan over a defined period and making two recommendations to improve current plan.

Knowledge Evidence

To be competent in this unit, a candidate must demonstrate knowledge of:

- circular economy and objectives to maximise value from resources in the economy
- environmental issues in waste management
- features of waste management plans
- legislative and procedural requirements applicable to implementing waste management plans and relevant to the workplace:
 - commonwealth, state and territory legislation and regulations in the state or territory of operation, including work health and safety (WHS)
 - classifications of dangerous goods and hazardous substances
 - duty of care
 - environmental protection
 - local government by-laws
 - licence requirements
- scheduling techniques

- techniques for monitoring or reviewing waste management plans to identify improvements
- typical hazards and risks associated with waste management operations
- waste hierarchy
- waste types
- workplace policies and procedures for implementing waste management plans:
 - allocating equipment and personnel
 - client service
 - documentation and reporting
 - WHS:
 - hazard identification, risk assessment and control using the hierarchy of control
 - injury, dangerous occurrence and incident response and reporting
 - personal protective equipment.

Assessment Conditions

Assessors must meet the requirements for assessors contained in the Standards for Registered Training Organisations.

Assessment must be conducted in the workplace or in a simulated workplace environment using realistic workplace conditions, materials, activities, responsibilities, procedures, safety requirements and environmental considerations.

Candidates must have access to workplace policies and procedures, waste management plan, operational documentation and resources required to achieve the performance evidence.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6f3f9672-30e8-4835-b348-205dfcf13d9b>

CPPWMT4010 Assess and advise on waste avoidance options

Modification History

Release 1 This version first released with CPP Property Services Training Package Release 10.0.

Supersedes and is equivalent to CPPWMT4062A Apply waste avoidance techniques.

Application

This unit specifies the skills and knowledge required to assess and advise on waste avoidance options. It includes confirming waste types and drivers for waste generation and identifying and assessing opportunities to avoid waste against the waste hierarchy. It requires analysing the cost-benefits and feasibility of identified waste avoidance options and presenting the findings.

A person who achieves this unit of competency is able to use specialised knowledge to complete routine and non-routine tasks and deal with predictable and sometimes unpredictable problems.

No licensing, legislative or certification requirements apply to this unit of competency at the time of publication.

Pre-requisite Unit

Nil.

Unit Sector

Waste management

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe what needs to be done to demonstrate achievement of the element.

1 Confirm waste avoidance requirements.

- 1.1 Review documentation to clarify waste avoidance objectives and clarify issues with relevant persons.
- 1.2 Interpret legislation, regulations and workplace policies and procedures for advising on waste avoidance options.

- 1.3 Select, check and use personal protective equipment appropriate for work activities.
 - 1.4 Obtain required permissions and access site according to workplace requirements.
 - 1.5 Conduct site and waste inspection according to workplace requirements.
 - 1.6 Confirm and record waste types, drivers and volumes at the site.
- 2 Identify and assess options for avoiding waste.
- 2.1 Consult with relevant persons to discuss identified waste types, drivers and volumes being generated.
 - 2.2 Identify potential alternative processes, products or practices to meet waste avoidance objective.
 - 2.3 Assess alternative processes, products or practices against the waste hierarchy.
 - 2.4 Develop suitable waste avoidance options and confirm compliance with workplace and regulatory requirements.
- 3 Evaluate options and present recommendations.
- 3.1 Prioritise options in order of greatest waste avoidance potential.
 - 3.2 Analyse cost-benefits and feasibility of recommended waste avoidance options.
 - 3.3 Document waste avoidance assessment, cost-benefit and feasibility analysis and recommendations.
 - 3.4 Present waste avoidance recommendations to relevant persons within agreed timeframes.

Foundation Skills

This section describes the language, literacy, numeracy and employment skills essential to performance in this unit but not explicit in the performance criteria:

- oral communication skills to interact with people from diverse socioeconomic and cultural backgrounds.

Unit Mapping Information

Supersedes and is equivalent to CPPWMT4062A Apply waste avoidance techniques.

Links

Companion volumes to this training package are available at the VETNet website -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6f3f9672-30e8-4835-b348-205dfcf13d9b>

Assessment Requirements for CPPWMT4010 Assess and advise on waste avoidance options

Modification History

Release 1 This version first released with CPP Property Services Training Package Release 10.0.

Supersedes and is equivalent to CPPWMT4062A Apply waste avoidance techniques.

Performance Evidence

To demonstrate competency, a candidate must meet the performance criteria of this unit by assessing and advising on waste avoidance options in two different areas of waste generation.

Knowledge Evidence

To be competent in this unit, a candidate must demonstrate knowledge of:

- impact of waste on the environment and relationship between waste and greenhouse emissions
- legislative and procedural requirements applicable to assessing and advising on waste avoidance options:
 - commonwealth, state and territory legislation and regulations in the state or territory of operation including, work health and safety (WHS)
 - confidentiality and privacy
 - environmental protection
- mathematical methods used to calculate costs and benefits of waste avoidance options
- methods for prioritising waste avoidance options in the order of greatest waste avoidance potential
- types of waste avoidance options and methods for assessing feasibility of options
- waste hierarchy
- waste types, drivers and causes
- workplace policies and procedures for assessing and advising on waste avoidance options:
 - client service
 - documentation and reporting
 - WHS:
 - hazard identification, risk assessment and control using the hierarchy of control
 - injury, dangerous occurrence and incident reporting
 - personal protective equipment.

Assessment Conditions

Assessors must meet the requirements for assessors contained in the Standards for Registered Training Organisations.

Assessment must be conducted in the workplace or in a simulated workplace environment using realistic workplace conditions, materials, activities, responsibilities, procedures, safety requirements and environmental considerations.

Candidates must have access to workplace policies and procedures, documentation, technologies, equipment and waste site required to achieve the performance evidence.

Links

Companion volumes to this training package are available at the VETNet website - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6f3f9672-30e8-4835-b348-205dfcf13d9b>

FBPOPR2074 Carry out manual handling tasks

Modification History

Release	Comments
Release 1	This version released with FBP Food, Beverage and Pharmaceutical Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to identify manual handling requirements of a work function, use manual handling aids to lift or move items, and identify and assess manual handling risks.

This unit applies to individuals who work under supervision in most situations and exercise limited autonomy.

All work must be carried out to comply with workplace procedures according to state/territory health and safety, environmental regulations, legislation and standards that apply to the workplace.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Operational (OPR)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Participate in processes to identify and assess manual handling	1.1 Identify the manual handling components of a work task 1.2 Identify manual handling risks to self and others within level of responsibility, and inform supervisor

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
2. Contribute to manual handling risk minimisation	2.1 Determine approximate weight of item to be handled 2.2 Identify whether manual handling equipment is required and, if so, select appropriate equipment 2.3 Check that manual handling equipment is available and ready for use 2.4 Ensure that personal protective equipment (PPE), including clothing and footwear, is fit for use 2.5 Follow safe work procedures
3. Plan and conduct manual handling	3.1 Identify hazards involved with manual handling task 3.2 Use appropriate PPE and clothing, and ensure correct fit 3.3 Modify workplace layout and environment within area of control to minimise manual handling risk 3.4 Modify work tasks within area of control to minimise the risk of injury 3.5 Use manual handling aids according to workplace procedures 3.6 Use movement and postures to minimise the risk of injury within the limits of the work environment and the demands of the task

Foundation Skills

Skill	Description
Numeracy	<ul style="list-style-type: none"> Estimate weights of items to be handled to assist with determining safe lifting/handling methods

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FBPOPR2074 Carry out manual handling tasks	FBPOPR1010 Carry out manual handling tasks	Unit recoded to reflect complexity of work task	Equivalent

Code and title current version	Code and title previous version	Comments	Equivalence status
		Foundation Skills refined Performance Evidence clarified Minor changes to Knowledge Evidence and Assessment Conditions	

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=78b15323-cd38-483e-aad7-1159b570a5c4>

Assessment Requirements for FBPOPR2074 Carry out manual handling tasks

Modification History

Release	Comments
Release 1	This version released with FBP Food, Beverage and Pharmaceutical Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has safely and effectively carried out a minimum of three different manual handling tasks, including:

- identifying the risks (to self and others) associated with each manual handling task
- eliminating risks, including through movement, posture and effectively using equipment provided
- modifying work to eliminate or minimise risk
- applying safe work procedures.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- different types of manual handling activities, including lifting, reaching, pushing, pulling, holding, restraining, throwing and carrying
- types of injuries that can result from manual handling
- aspects of manual handling that may be risks (hazard identification), including:
 - repetitive or sustained application of force
 - repetitive or sustained awkward posture
 - repetitive or sustained movement
 - application of high force
- manual handling of unstable or unbalanced loads, such as liquids or animals
- workplace procedures and responsibilities for identifying and reporting manual handling hazards
- factors to be considered when assessing manual handling risks relevant to work role (referring to workplace risk assessment sheets and code of practice advice where available), including:

- postures
- movements
- force required
- duration and frequency of manual handling activity
- environmental conditions, such as hot and cold work environments
- procedures and responsibilities for conducting risk assessments of manual handling tasks
- typical options for eliminating or controlling manual handling risks associated with work functions, including principles of hierarchy of control and the advantages and disadvantages of different options
- types of equipment and/or techniques used to eliminate or reduce manual handling risks in the workplace, including when and how to use each type of technique/equipment relevant to manual handling tasks in work role
- level of authority to address health and safety issues related to manual handling and related workplace arrangements for managing safety issues
- sources of advice on manual handling relevant to work function
- equipment available to assist manual handling, related inspections required to identify faulty equipment, and related reporting procedures
- personal protective equipment (PPE) checks, including checking:
 - correct fit
 - appropriate for task
 - undamaged
- movement and postures that increase the risk of injury, and movements and postures to minimise the force in the body as applied to specific tasks in the workplace.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - a workplace or an environment that accurately represents a real workplace
- resources, equipment and materials:
 - personal protective clothing and equipment
 - work procedures, including advice on manual handling requirements and safe work practices
 - manual handling equipment

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=78b15323-cd38-483e-aad7-1159b570a5c4>

FBPVIT3004 Monitor and maintain nursery plants

Modification History

Release	Comments
Release 1	This version released with FBP Food, Beverage and Pharmaceutical Training Package Version 2.0.

Application

This unit of competency describes the skills and knowledge required to monitor and maintain containerised nursery plants.

The unit applies to individuals who carry out workplace procedures in completing tasks associated with maintaining nursery plants.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety, and food safety regulations, legislation and standards that apply to the workplace.

No occupational licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Prerequisite unit of competency for this unit is:

- FBPVIT2012 Identify and treat nursery plants and disorders

Unit Sector

Viticulture (VIT)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Monitor environmental parameters	1.1 Confirm job requirements 1.2 Identify potential health and safety hazards and controls according to workplace procedures

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	1.3 Select and fit personal protective equipment according to the job requirements 1.4 Monitor environmental parameters against the production plan 1.5 Alter environmental parameters to meet the needs of the plants 1.6 Maintain nursery hygiene to comply with industry and workplace procedures
2. Determine daily water requirements	2.1 Identify plant water requirements to maintain required health and growth according to workplace procedures 2.2 Irrigate plants according to workplace procedures 2.3 Monitor water requirements according to workplace procedures 2.4 Maintain nursery irrigation system to meet plant production plan
3. Implement treatments to promote plant growth	3.1 Test potting media according to workplace procedures 3.2 Monitor overall health of plants according to workplace procedures 3.3 Implement plant treatments according to production plans 3.4 Identify and address non-conformances according to workplace procedures
4. Monitor the dispatch of stock	4.1 Confirm availability of stock and timing of dispatch with customers according to workplace procedures 4.2 Prepare plants for dispatch in line with customer requirements 4.3 Check stock to ensure it meets quality specifications 4.4 Check orders against stock being dispatched to ensure compliance 4.5 Record workplace information according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
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Skill	Description
Reading	<ul style="list-style-type: none"> Comprehend information from a variety of workplace documents
Numeracy	<ul style="list-style-type: none"> Calculate numerical information relating to measuring quantities, adjusting equipment controls and stock operations
Navigate the world of work	<ul style="list-style-type: none"> Apply workplace procedures and legislative responsibilities relevant to own role
Interact with others	<ul style="list-style-type: none"> Use required communication mode to report operational information to relevant personnel
Get the work done	<ul style="list-style-type: none"> Respond to routine problems by referring to workplace procedures Plan and organise tasks to achieve job requirements

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FBPVIT3004 Monitor and maintain nursery plants	FDFWGG3009A Monitor and maintain nursery plants	<p>Updated to meet Standards for Training Packages</p> <p>Code changed to reflect industry sector</p> <p>Minor changes to Performance Criteria for clarity</p> <p>One prerequisite unit removed</p>	Equivalent unit

Links

Companion Volume Implementation Guides are found in VETNet: -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=78b15323-cd38-483e-aad7-1159b570a5c4>

Assessment Requirements for FBPVIT3004 Monitor and maintain nursery plants

Modification History

Release	Comments
Release 1	This version released with FBP Food, Beverage and Pharmaceutical Training Package Version 2.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has safely and effectively monitored and maintained three different containerised nursery plants and demonstrated the following:

- identifying and following health and safety in the workplace procedures
- selecting and using personal protective equipment (PPE)
- identifying environmental factors and their effect on plant growth and health
- monitoring and controlling irrigation and treatments to meet production outcomes
- identifying and addressing non-conformances
- confirming available stock levels to meet customer requirements
- preparing stock for dispatch
- dispatching nursery plant stock to meet customer requirements
- completing documentation to workplace requirements.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- basic vine physiology, as it applies to:
 - transpiration
 - water intake
 - nutrient uptake
 - photosynthesis
 - respiration
 - translocation
- parts of the root, trunk, shoot and fruit systems of the grapevine, their role in how the vine works and their contribution to fruit quality:

- buds, nodes and tendrils
- cambium, epidermis, phloem and xylem
- leaf blade, bract and petiole
- bunch, berries and flowers
- key grape varieties and their distinguishing features:
 - berry and bunch characteristics
 - frost and disease resistance
 - flavour and style
- annual grapevine growth stages:
 - budburst
 - flowering
 - on set of ripening
 - maturity
- irrigation systems and methods including:
 - methods of calculating daily water needs
 - methods for monitoring water use
 - relationship between water needs of nursery plants and environmental parameters
- maintenance of irrigation systems:
 - fixing blockages
 - servicing irrigation system components
 - identifying and reporting faults in the irrigation system
 - fixing leaking heads and hoses
 - monitoring water requirements
 - using soil moisture devices
- checking plants for physical signs of water stress or waterlogging
- types of potting media, their characteristics and effect on plant growth
- tests to determine quality of potting media:
 - pH, drainage, aeration
 - salinity
 - nitrate levels
 - water repellence
- maintenance of work area to meet workplace hygiene standards:
 - removing weeds
 - removing dead or diseased plant materials
 - washing work area on transfer of plants
 - disinfecting tools, equipment and work areas
 - using foot baths on entry to different work areas
- procedures for applying treatments to vines:
 - fungicides
 - fertilisers

- insecticides
- hormones
- pruning
- hardening off
- preparing, mixing and using chemicals
- quality parameters for nursery plants
- treatments required by plants at different growth stages
- health and safety hazards and controls in the workplace:
 - selecting, fitting and using appropriate PPE
 - identifying potential and existing hazards in the work area and implementing safe work procedures to minimise hazards
- procedures for monitoring and preparing stock for dispatch:
 - packing, dispatching and handling techniques of nursery plants
 - labelling containers
 - checking orders against stock prepared
 - hydrating stock
- procedures and responsibility for reporting problems and anomalies
- procedures for liaising with customers
- procedures for maintaining workplace records.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - a plant nursery or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - PPE
 - equipment, services and corresponding information
 - nursery stock
 - hygiene procedures, materials and equipment
 - system for recording requirements and procedures
- specifications:
 - work procedures, including advice on company practices, safe work practices, plant quality and environmental requirements
 - work instructions and schedules.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume Implementation Guides are found in VETNet: -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=78b15323-cd38-483e-aad7-1159b570a5c4>

FSKLRG011 Use routine strategies for work-related learning

Modification History

Release	Comments
Release 1	This version first released with FSK Foundation Skills Training Package Version 2.0.

Application

This unit describes the skills and knowledge required to identify own learning goals and needs and develop a formal learning plan to participate in a vocational or workplace learning environment.

An individual performing these tasks works independently and uses familiar support resources as needed.

This unit applies to individuals who use, or are preparing to use, learning skills to complete workplace activities. This includes existing workers and individuals preparing for employment through vocational education and training. This unit should be integrated and contextualised with vocational training to support achievement of vocational competency.

This unit is aligned to, but does not fully address, the Australian Core Skills Framework (ACSF) learning core skill indicators .01 and .02 at level 3 in the workplace and employment domain of communication.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Learning

Elements and Performance Criteria

Element	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for learning	1.1 Identify work-related learning goals 1.2 Investigate and select a range of formal and informal learning

Element	Performance Criteria
	pathways 1.3 Investigate a range of approaches to achieve goals, identifying strengths and limitations of approaches 1.4 Anticipate potential barriers to learning
2. Use strategies for learning	2.1 Identify and select work-related goal 2.2 Identify a preferred approach to achieving work-related learning goal 2.3 Identify and implement strategies to address barriers to achieving learning goal 2.4 Propose routine learning strategies to achieve learning goal 2.5 Identify and access a range of reliable support resources 2.6 Create and use a formal learning plan to implement strategies
3. Review own learning progress	3.1 Monitor progress against plan and reflect on actions and outcomes, identifying options for improvement 3.2 Seek feedback on learning progression 3.3 Identify areas for further learning and training

Foundation Skills

This section describes language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Mapping Information

Supersedes and is equivalent to FSKLRG11 Use routine strategies for work-related learning.

Links

Companion Volume Implementation Guide is found on VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=f572fe10-a855-4986-9295-3852c771f178>

Assessment Requirements for FSKLRG011 Use routine strategies for work-related learning

Modification History

Release	Comments
Release 1	This version first released with FSK Foundation Skills Training Package Version 2.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- develop at least one formal learning plan to support the achievement of identified work-related learning goal and learning pathway
- check and review progress against plan on at least one occasion.
-

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- work related tasks requiring learning
- common barriers to learning and solutions to address barriers
- routine strategies to support learning goals
- own learning goals
- relevant education and training requirements for selected learning pathway options
- relevant support resources for personal learning goals and techniques to assess validity of source
- typical features of a formal learning plan
- approaches to check and respond to progress of learning plans.
-

Assessment Conditions

Competency is to be assessed in the workplace, a workplace simulated environment or a vocational training context.

Skills must be demonstrated using routine texts or tasks that reflect those typically found in a workplace.

The following resources are to be made available:

- own familiar support resources.

Assessors must:

- satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards, and
- have sound knowledge of the ACSF and performance features of the ACSF level being assessed, and
- have demonstrable expertise, knowledge and skills in the vocational contextualisation and assessment of the core skill, learning, and
- have completed the following or equivalent:
 - TAESS00009 Address Foundation Skills in Vocational Practice Skill Set; or
 - a higher level education qualification, such as:
 - TAE80113 Graduate Diploma of Adult Language, Literacy and Numeracy Practice (and its equivalent TAE70111); or
 - Bachelor of Education, Graduate Certificate or Graduate Diploma of Education, or higher. This may include qualifications relating to TESOL, adult education or vocational education.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=f572fe10-a855-4986-9295-3852c771f178>

FSKOCM007 Interact effectively with others at work

Modification History

Release	Comments
Release 1	This version first released with FSK Foundation Skills Training Package Version 2.0.

Application

This unit describes the skills and knowledge required to interact effectively with others in the workplace, including external clients and internal staff. Interactions include giving or responding to spoken instructions, responding to customer queries and complaints, explaining a workplace procedure, or taking telephone calls from the general public or internal staff.

An individual performing these tasks works independently and uses familiar support resources as needed.

This unit applies to individuals who use, or are preparing to use, oral communication skills to complete workplace activities. This includes existing workers and individuals preparing for employment through vocational education and training. This unit should be integrated and contextualised with vocational training to support achievement of vocational competency.

This unit is aligned to, but does not fully address, the Australian Core Skills Framework (ACSF) oral communication core skill indicators .07 and .08 at level 3 in the workplace and employment domain of communication.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Oral Communication

Elements and Performance Criteria

Element	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to interact with others at work	1.1 Identify type of interaction and audience 1.2 Interpret purpose of interaction and the information required for

Element	Performance Criteria
	exchange 1.3 Establish appropriate style, tone and register of communication to meet audience needs 1.4 Identify oral communication strategies required for spoken interaction
2. Participate in interactions with others	2.1 Use oral communication strategies to communicate effectively 2.2 Interact using conventional grammar, every day and some specific vocabulary, and routine pronunciation appropriate to the workplace 2.3 Recognise and use appropriate non-verbal communication strategies
3. Review performance	3.1 Confirm if intended meaning and information has been communicated 3.2 Seek feedback and evaluate effectiveness of own performance 3.3 Identify strategies for improvement

Foundation Skills

This section describes language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Supersedes and is equivalent to FSKOCM007 Interact effectively with others at work.

Links

Companion Volume Implementation Guide is found on VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=f572fe10-a855-4986-9295-3852c771f178>

Assessment Requirements for FSKOCM007 Interact effectively with others at work

Modification History

Release	Comments
Release 1	This version first released with FSK Foundation Skills Training Package Version 2.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- participate in at least two different spoken interactions at work appropriate to audience and purpose.

Participation must include speaking and listening.

Knowledge Evidence

During the above spoken exchange the candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- different types of workplace interactions and their typical audiences
- common purposes of workplace interactions
- different registers, styles and tones of workplace interactions and their application to differing audiences
- relevant oral communication strategies that support effective spoken interactions at work
- range of tenses and appropriate use
- intelligible pronunciation of key language
- routine and some specialised vocabulary
- non-verbal feedback strategies and their application.
-

Assessment Conditions

Competency is to be assessed in the workplace, a workplace simulated environment or a vocational training context. Spoken exchanges must be undertaken with real individuals.

Skills must be demonstrated using routine oral exchanges that reflect those typically undertaken in a workplace.

The following resources are to be made available:

- own familiar support resources
- participants for interactions described in performance evidence.

Assessors must:

- satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards, and
- have sound knowledge of the ACSF and performance features of the ACSF level being assessed, and
- have demonstrable expertise, knowledge and skills in the vocational contextualisation and assessment of the core skill, oral communication, and
- have completed the following or equivalent:
 - TAESS00009 Address Foundation Skills in Vocational Practice Skill Set; or
 - a higher level education qualification, such as:
 - TAE80113 Graduate Diploma of Adult Language, Literacy and Numeracy Practice (and its equivalent TAE70111); or
 - Bachelor of Education, Graduate Certificate or Graduate Diploma of Education, or higher. This may include qualifications relating to TESOL, adult education or vocational education.
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Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=f572fe10-a855-4986-9295-3852c771f178>

FSKRDG007 Read and respond to simple workplace information

Modification History

Release	Comments
Release 1	This version first released with FSK Foundation Skills Training Package Version 2.0.

Application

This unit describes the skills and knowledge required to identify, interpret and respond to information in simple and familiar workplace texts in printed or digital formats, such as short messages, notices, instructions, forms, rosters, simple diagrams, tables and charts.

An individual performing these tasks may work with an expert or mentor where support is available if requested.

This unit applies to individuals who use, or are preparing to use, reading skills to complete workplace activities. This includes existing workers and individuals preparing for employment through vocational education and training. This unit should be integrated and contextualised with vocational training to support achievement of vocational competency.

This unit is aligned to, but does not fully address, the Australian Core Skills Framework (ACSF) reading core skill indicators .03 and .04 at level 2 in the workplace and employment domain of communication.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Reading

Elements and Performance Criteria

Element	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to read simple and familiar workplace text	1.1 Identify purpose for reading and select workplace text relevant to task

Element	Performance Criteria
	1.2 Identify text type 1.3 Identify audience and purpose of text 1.4 Identify text structure and distinguishing text features
2. Identify and interpret information in text	2.1 Navigate text to locate relevant information 2.2 Identify and interpret workplace terminology in text 2.3 Use reading strategies to interpret relevant information and construct meaning 2.4 Interpret and analyse information
3. Check understanding and identify response to text	3.1 Check that information in text has been correctly understood 3.2 Use information to identify appropriate response

Foundation Skills

This section describes language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Supersedes and is equivalent to FSKRDG07 Read and respond to simple workplace information.

Links

Companion Volume Implementation Guide is found on VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=f572fe10-a855-4986-9295-3852c771f178>

Assessment Requirements for FSKRDG007 Read and respond to simple workplace information

Modification History

Release	Comments
Release 1	This version first released with FSK Foundation Skills Training Package Version 2.0.

Performance Evidence

Evidence of the ability to complete tasks outlined in the elements, performance criteria, and foundation skills of this unit, including on at least one occasion, evidence of the ability to:

- interpret and identify appropriate responses to information in two different simple and familiar workplace texts.
-

Knowledge Evidence

The candidate must be able to demonstrate the following knowledge to effectively complete the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- reasons for reading and engaging with simple workplace texts
- audience, purpose and uses of a limited range of simple workplace texts
- common features of simple workplace texts and how to use these features to identify text type
- high-frequency terminology relevant to workplace in simple workplace texts
- techniques to navigate simple informal texts to locate general and specific information
- reading strategies to support the interpretation of information in simple workplace texts
- techniques to interpret and analyse simple workplace information
- suitable responses to information in simple workplace texts.
-

Assessment Conditions

Competency is to be assessed in the workplace, a workplace simulated environment or a vocational training context.

Skills must be demonstrated using simple and familiar texts that reflect those typically found in a workplace.

The following resources are to be made available:

- an expert or mentor to provide support to learner if requested
- dictionary or online resource to check word meanings
- own familiar support resources
- simple workplace information.

Assessors must:

- satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards, and
- have sound knowledge of the ACSF and performance features of the ACSF level being assessed, and
- have demonstrable expertise, knowledge and skills in the vocational contextualisation and assessment of the core skill, reading, and
- have completed the following or equivalent:
 - TAESS00009 Address Foundation Skills in Vocational Practice Skill Set; or
 - a higher level education qualification, such as:
 - TAE80113 Graduate Diploma of Adult Language, Literacy and Numeracy Practice (and its equivalent TAE70111); or
 - Bachelor of Education, Graduate Certificate or Graduate Diploma of Education, or higher. This may include qualifications relating to TESOL, adult education or vocational education.
 -

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=f572fe10-a855-4986-9295-3852c771f178>

FSKWTG006 Write simple workplace information

Modification History

Release	Comments
Release 1	This version first released with FSK Foundation Skills Training Package Version 2.0.

Application

This unit describes the skills and knowledge required to write simple workplace information, which may be in printed or digital formats, such as workplace reports, including incident or accident reports, pro-formas or templates, emails, messages, notes, statements or WHS records.

An individual performing these tasks may work with an expert or mentor where support is available if requested.

This unit applies to individuals who use, or are preparing to use, writing skills to complete workplace activities. This includes existing workers and individuals preparing for employment through vocational education and training. This unit should be integrated and contextualised with vocational training to support achievement of vocational competency.

The unit is aligned to, but does not fully address, the Australian Core Skills Framework (ACSF) writing core skill indicators .05 and .06 at level 2 in the workplace and employment domain of communication.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Writing

Elements and Performance Criteria

Element	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to write simple workplace text	1.1 Identify and confirm type and purpose of familiar workplace text 1.2 Identify audience for workplace text and appropriate register of

Element	Performance Criteria
	writing 1.3 Identify common text features and select for use 1.4 Identify personal and familiar workplace information required to develop text 1.5 Develop plan with a limited number of steps to write text
2. Draft text	2.1 Develop simple structure for text 2.2 Write text using simple vocabulary, grammatical structures and conventions 2.3 Apply very basic organising principles to sequence information 2.4 Layout and present text to meet workplace purpose
3. Review and finalise text	3.1 Check draft text for completeness, accuracy and suitability to audience and purpose 3.2 Review writing, incorporating feedback 3.3 Finalise text based on re-reading

Foundation Skills

This section describes language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Supersedes and is equivalent to FSKWTG06 Write simple workplace information and FSKWTG04 Write simple informal workplace texts.

Links

Companion Volume Implementation Guide is found on VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=f572fe10-a855-4986-9295-3852c771f178>

Assessment Requirements for FSKWTG006 Write simple workplace information

Modification History

Release	Comments
Release 1	This version first released with FSK Foundation Skills Training Package Version 2.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- draft, check and revise two of the following different simple workplace texts:
 - workplace report, including incident or accident reports
 - formatted text, pro-formas or templates, for example, internal job application form, shift handover reports, purchase orders, or invoices
 - standard workplace forms, including vehicle log or petty cash claim
 - brief shift note
 - email
 - message or note
 - roster or action plan for other members of a work group
 - list or simple flyer of information for discussion
 - dot point statement about a process or procedure.
 -

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- different forms, structures, and uses of simple formal and informal workplace texts
- common features of simple workplace texts and their uses, including formatted and free form texts
- basic differences between informal and formal register of writing
- simple techniques for planning to write workplace texts
- simple grammar and vocabulary relevant to self, workplace and everyday life
- basic punctuation
- simple techniques for organising and sequencing information
- techniques to layout and present informal and formal workplace texts

- relevance and application, with support, of spell checking devices
- techniques to review and revise texts.
-

Assessment Conditions

Competency is to be assessed in the workplace, a workplace simulated environment or a vocational training context.

Skills must be demonstrated using simple formatted texts and tasks with a clear purpose that reflect those typically found in a workplace.

The following resources are to be made available:

- an expert or mentor to provide support to learner if requested
- functioning computer and keyboard when digital information is being written in the performance evidence
- paper-based or electronic dictionary
- own familiar support resources.

Assessors must:

- satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards, and
- have sound knowledge of the ACSF and performance features of the ACSF level being assessed, and
- have demonstrable expertise, knowledge and skills in the vocational contextualisation and assessment of the core skill, writing, and
- have completed the following or equivalent:
 - TAESS00009 Address Foundation Skills in Vocational Practice Skill Set; or
 - a higher level education qualification, such as:
 - TAE80113 Graduate Diploma of Adult Language, Literacy and Numeracy Practice (and its equivalent TAE70111); or
 - Bachelor of Education, Graduate Certificate or Graduate Diploma of Education, or higher. This may include qualifications relating to TESOL, adult education or vocational education.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=f572fe10-a855-4986-9295-3852c771f178>

HLTAID009 Provide cardiopulmonary resuscitation

Modification History

Not applicable.

Application

This unit describes the skills and knowledge required to perform cardiopulmonary resuscitation (CPR) in line with the Australian Resuscitation Council (ARC) guidelines.

This unit applies to all persons who may be required to provide CPR, in a range of situations, including community and workplace settings.

Specific licensing/regulatory requirements relating to this competency, including requirements for refresher training should be obtained from the relevant national/state/territory Work Health and Safety Regulatory Authorities.

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential outcomes

Performance criteria describe the performance needed to demonstrate achievement of the element.

1. Respond to an emergency situation.

- 1.1. Recognise and assess an emergency situation.
- 1.2. Ensure safety for self, bystanders and casualty.
- 1.3. Assess the casualty and recognise the need for cardiopulmonary resuscitation (CPR).
- 1.4. Seek assistance from emergency services.

2. Perform CPR procedures.

- 2.1. Perform CPR in accordance with the ARC guidelines.
- 2.2. Display respectful behaviour towards casualty.
- 2.3. Operate an automated external defibrillator (AED) according to manufacturers' instructions.

3. Communicate details of the incident.

- 3.1. Accurately convey incident details to emergency services.
- 3.2. Report details of incident in line with appropriate workplace or site procedures.
- 3.3. Maintain privacy and confidentiality of information in line with statutory or organisational policies.

4. Review the incident.
- 4.1. Recognise the possible psychological impacts on self and other rescuers and seek help when required.
 - 4.2. Contribute to a review of the first aid response as required.

Foundation Skills

The Foundation Skills describe those required skills (language, literacy, numeracy and employment skills) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Supersedes and not equivalent to HLTAID001 Perform cardiopulmonary resuscitation

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ced1390f-48d9-4ab0-bd50-b015e5485705>

Assessment Requirements for HLTAID009 Provide cardiopulmonary resuscitation

Modification History

Not applicable.

Performance Evidence

Evidence of the ability to complete tasks outlined in elements and performance criteria of this unit in the context of the workplace or community setting.

There must be evidence that the candidate has completed the following tasks in line with State/Territory regulations, first aid codes of practice, first aid guidelines determined by the Australian Resuscitation Council (ARC) and other Australian national peak clinical bodies and workplace or site procedures:

- managed, in line with ARC guidelines, the unconscious, breathing casualty including appropriate positioning to reduce the risk of airway compromise
- managed, in line with ARC guidelines, the unconscious, non-breathing adult, including:
 - performing at least 2 minutes of uninterrupted single rescuer cardiopulmonary resuscitation (CPR) (5 cycles of both compressions and ventilations) on an adult resuscitation manikin placed on the floor
 - following the prompts of an automated external defibrillator (AED) to deliver at least one shock
 - demonstrating a rotation of single rescuer operators with minimal interruptions to compressions
 - responding appropriately in the event of regurgitation or vomiting
 - handing over to emergency services
 - providing an accurate verbal report of the incident
 - reviewing the incident
- managed, in line with ARC guidelines, the unconscious, non-breathing infant, including:
 - performing at least 2 minutes of uninterrupted single rescuer CPR (5 cycles both compressions and ventilations) on an infant resuscitation manikin placed on a firm surface.

Knowledge Evidence

Demonstrated knowledge required to complete the tasks outlined in elements and performance criteria of this unit:

- guidelines and procedures including:
 - relevant ARC guidelines to managing the unconscious breathing and non-breathing casualty and provision of CPR
 - potential incident hazards and risk minimisation processes when providing first aid

- infection control procedures, including use of standard precautions and resuscitation barrier devices
- requirements for currency of skill and knowledge
- first aid codes of practice
- appropriate workplace or site procedures relevant to the provision of first aid
- legal, workplace and community considerations, including:
 - duty of care requirements
 - own skills and limitations
 - consent and how it relates to the conscious and unconscious casualty
 - privacy and confidentiality requirements
 - awareness of potential need for stress management techniques and available support for rescuers
- considerations when providing CPR, including:
 - upper airway and effect of positional change
 - appropriate duration and cessation of CPR
 - appropriate use of an AED
 - safety and maintenance procedures for an AED
 - chain of survival
 - how to access emergency services
- techniques for providing CPR to adults, children and infants including:
 - how to recognise that a casualty is unconscious and not breathing normally
 - rate, ratio and depth of compressions and ventilations
 - correct hand positioning for compressions
 - basic anatomy, physiology and the differences between adults, children and infants relating to CPR.

Assessment Conditions

Each candidate to demonstrate skills in an environment that provides realistic in-depth, scenarios and simulations to assess candidates' skills and knowledge.

Due to the nature of this type of training, it is acceptable for the performance evidence to be collected in a simulated environment.

Compression and ventilation skills must be demonstrated on resuscitation manikins following ARC guidelines for the purpose of assessment of CPR procedures.

Assessment must ensure access to:

- adult and infant resuscitation manikins following ARC guidelines for the purpose of assessment of CPR procedures
- AED training devices
- personal protective equipment (PPE).

Simulated assessment environments must simulate real-life situations where these skills and knowledge would be performed, with all the relevant equipment and resources of that workplace or community environment.

Assessors must satisfy the Standards for Registered Training Organisations' requirements for assessors and must hold this unit or demonstrate equivalent skills and knowledge to that contained within this unit.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ced1390f-48d9-4ab0-bd50-b015e5485705>

HLTAID011 Provide First Aid

Modification History

Not applicable.

Application

This unit describes the skills and knowledge required to provide a first aid response to a casualty in line with first aid guidelines determined by the Australian Resuscitation Council (ARC) and other Australian national peak clinical bodies.

The unit applies to all persons who may be required to provide a first aid response in a range of situations, including community and workplace settings.

Specific licensing/regulatory requirements relating to this competency, including requirements for refresher training should be obtained from the relevant national/state/territory Work Health and Safety Regulatory Authorities.

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential outcomes

Performance criteria describe the performance needed to demonstrate achievement of the element.

1. Respond to an emergency situation.

- 1.1. Recognise and assess an emergency situation.
- 1.2. Ensure safety for self, bystanders and casualty.
- 1.3. Assess the casualty and recognise the need for first aid response.
- 1.4. Seek assistance from emergency services.

2. Apply appropriate first aid procedures.

- 2.1. Perform cardiopulmonary resuscitation (CPR) in accordance ARC guidelines.
- 2.2. Provide first aid in accordance with established first aid principles.
- 2.3. Display respectful behaviour towards casualty.
- 2.4. Obtain consent from casualty where possible.
- 2.5. Use available resources and equipment to make the casualty as comfortable as possible.
- 2.6. Operate first aid equipment according to manufacturers' instructions.
- 2.7. Monitor the casualty's condition and respond in accordance with first aid principles.

3. Communicate details of the incident.
 - 3.1. Accurately convey incident details to emergency services.
 - 3.2. Report details of incident in line with appropriate workplace or site procedures.
 - 3.3. Complete applicable workplace or site documentation, including incident report form.
 - 3.4. Maintain privacy and confidentiality of information in line with statutory or organisational policies.
4. Review the incident.
 - 4.1. Recognise the possible psychological impacts on self and other rescuers and seek help when required.
 - 4.2. Contribute to a review of the first aid response as required.

Foundation Skills

The Foundation Skills describe those required skills (language, literacy, numeracy and employment skills) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Supersedes and not equivalent to HLTAID003 Provide first aid

Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ced1390f-48d9-4ab0-bd50-b015e5485705>

Assessment Requirements for HLTAID011 Provide First Aid

Modification History

Not applicable.

Performance Evidence

Evidence of the ability to complete tasks outlined in elements and performance criteria of this unit in the context of the workplace or community setting.

There must be evidence that the candidate has completed the following tasks in line with State/Territory regulations, first aid codes of practice, first aid guidelines determined by the Australian Resuscitation Council (ARC) and other Australian national peak clinical bodies and workplace or site procedures:

- managed, in line with ARC guidelines, the unconscious, breathing casualty including appropriate positioning to reduce the risk of airway compromise
- managed, in line with ARC guidelines, the unconscious, non-breathing adult, including:
 - performing at least 2 minutes of uninterrupted single rescuer cardiopulmonary resuscitation (CPR) (5 cycles of both compressions and ventilations) on an adult resuscitation manikin placed on the floor
 - following the prompts of an automated external defibrillator (AED) to deliver at least one shock
 - demonstrating a rotation of single rescuer operators with minimal interruptions to compressions
 - responding appropriately in the event of regurgitation or vomiting
- managed, in line with ARC guidelines, the unconscious, non-breathing infant, including:
 - performing at least 2 minutes of uninterrupted single rescuer CPR (5 cycles both compressions and ventilations) on an infant resuscitation manikin placed on a firm surface
- managed casualties, with the following:
 - anaphylaxis
 - asthma
 - non-life-threatening bleeding
 - choking
 - envenomation, using pressure immobilisation
 - fractures, dislocations, sprains and strains, using appropriate immobilisation techniques
 - minor wound cleaning and dressing
 - nosebleed
 - shock

- responded to at least one simulated first aid incident contextualised to the candidate's workplace or community setting, where the candidate has no knowledge of the casualty's condition prior to starting treatment, including:
 - identifying the casualty's illness or injury through history, signs and symptoms
 - using personal protective equipment (PPE) as required
 - providing appropriate first aid treatment
 - conveying incident details to emergency services or advising casualty on any required post incident action
 - providing an accurate verbal and written report of the incident
 - reviewing the incident.

Knowledge Evidence

Demonstrated knowledge required to complete the tasks outlined in elements and performance criteria of this unit:

- guidelines and procedures including:
 - ARC guidelines relevant to the provision of first aid
 - first aid guidelines from Australian national peak clinical bodies
 - potential incident hazards and risk minimisation processes when providing first aid
 - infection control procedures, including use of standard precautions and resuscitation barrier devices
 - requirements for currency of skill and knowledge
 - first aid codes of practice
 - appropriate workplace or site procedures relevant to the provision of first aid
 - contents of first aid kits
- legal, workplace and community considerations including:
 - duty of care requirements
 - own skills and limitations
 - consent and how it relates to the conscious and unconscious casualty
 - privacy and confidentiality requirements
 - awareness of potential need for stress management techniques and available support for rescuers
- considerations when providing CPR, including:
 - upper airway and effect of positional change
 - appropriate duration and cessation of CPR
 - appropriate use of an AED
 - safety and maintenance procedures for an AED
 - chain of survival
 - how to access emergency services
- techniques for providing CPR to adults, children and infants including:
 - how to recognise that a casualty is unconscious and not breathing normally

- rate, ratio and depth of compressions and ventilations
- correct hand positioning for compressions
- basic anatomy, physiology and the differences between adults, children and infants relating to CPR
- signs, symptoms and management of the following conditions and injuries:
 - allergic reaction
 - anaphylaxis
 - asthma
 - non-life-threatening and life-threatening bleeding
 - burns
 - cardiac conditions, including chest pain
 - choking
 - diabetes
 - drowning
 - envenomation - all current treatments
 - eye injuries
 - fractures, dislocations, strains and sprains
 - head, neck and spinal injuries
 - hypothermia
 - hyperthermia
 - minor wounds
 - nose-bleed
 - poisoning
 - seizures
 - shock
 - sharps injuries
 - stroke.

Assessment Conditions

Each candidate to demonstrate skills in an environment that provides realistic in-depth, scenarios and simulations to assess candidates' skills and knowledge.

Due to the nature of this type of training, it is acceptable for the performance evidence to be collected in a simulated environment.

Compression and ventilation skills must be demonstrated on resuscitation manikins following ARC guidelines for the purpose of assessment of CPR procedures.

Assessment must ensure access to:

- adult and infant resuscitation manikins following ARC guidelines for the purpose of assessment of CPR procedures
- adrenaline auto-injector training device

- AED training devices
- workplace first aid kit
- placebo bronchodilator and spacer device
- different types of wound dressings and bandages
- blankets and items to treat for shock
- personal protective equipment (PPE)
- workplace injury, trauma or illness record, or other applicable workplace or site incident report form.

Simulated assessment environments must simulate real-life situations where these skills and knowledge would be performed, with all the relevant equipment and resources of that workplace or community environment.

Assessors must satisfy the Standards for Registered Training Organisations' requirements for assessors and must hold this unit or demonstrate equivalent skills and knowledge to that contained within this unit.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ced1390f-48d9-4ab0-bd50-b015e5485705>

HLTAID013 Provide First Aid in remote or isolated site

Modification History

Not applicable.

Application

This unit describes the skills and knowledge required to provide a first aid response to a casualty in a remote or isolated site over an extended period of time until medical assistance is provided, or evacuation occurs.

This unit applies to any site where medical assistance is likely to be delayed.

First aid is to be provided in line with guidelines determined by the Australian Resuscitation Council (ARC) and other Australian national peak clinical bodies.

Specific licensing/regulatory requirements relating to this competency, including requirements for refresher training should be obtained from the relevant national/state/territory Work Health and Safety Regulatory Authorities.

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential outcomes

Performance criteria describe the performance needed to demonstrate achievement of the element.

- | | |
|---|--|
| 1. Prepare equipment for first aid response in remote or isolated site. | 1.1. Evaluate information about remote or isolated site and identify potential injuries and illnesses requiring extended management.
1.2. Select first aid equipment and resources to manage a range of potential incidents, according to organisational emergency response and first aid procedures.
1.3. Select communication equipment to facilitate emergency response in remote or isolated site.
1.4. Complete pre-departure safety and serviceability checks on equipment. |
| 2. Assess the situation. | 2.1. Recognise and assess an emergency situation.
2.2. Ensure safety for self, bystanders and casualty.
2.3. Assess casualty to determine extent of first aid response.
2.4. Identify need for medical assistance and relay initial and |

- concise information.
- 2.5. Triage when multiple casualties are involved.
3. Apply appropriate first aid procedures.
- 3.1. Perform single-rescuer or two-rescuer cardiopulmonary resuscitation (CPR) in accordance with the ARC guidelines and availability of rescuers.
- 3.2. Provide first aid in accordance with established first aid principles.
- 3.3. Display respectful behaviour towards casualty.
- 3.4. Obtain consent from casualty where possible.
- 3.5. Use available resources and equipment to make the casualty as comfortable as possible.
- 3.6. Operate first aid equipment according to manufacturers' instructions.
- 3.7. Monitor the casualty's condition and respond in accordance with first aid principles.
- 3.8. Assess need to evacuate casualty, ability to transport to medical assistance or need for external assistance.
- 3.9. Administer medication as required according to medical instructions.
4. Communicate details of the incident.
- 4.1. Accurately convey incident details to emergency services.
- 4.2. Report details of incident in line with appropriate workplace or site procedures.
- 4.3. Complete applicable workplace or site documentation, including incident report form.
- 4.4. Maintain privacy and confidentiality of records and information in line with applicable statutory or organisational policies.
5. Coordinate evacuation and first aid activities until assistance arrives.
- 5.1. Determine need, in consultation with external services, to evacuate casualty.
- 5.2. Provide accurate information about location of incident, number of casualties, their condition and their position to enable deployment of appropriate resources.
- 5.3. Continue to provide treatment using available resources until help arrives.
- 5.4. Prepare site for evacuation of patient.
- 5.5. On approach, assist emergency services to locate the site of the incident.
- 5.6. Follow instructions and provide assistance to emergency services personnel during evacuation.
6. Review the incident.
- 6.1. Recognise the possible psychological impacts on self and other rescuers and seek help when required.
- 6.2. Contribute to a review of the first aid response as required.

Foundation Skills

The Foundation Skills describe those required skills (language, literacy, numeracy and employment skills) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Supersedes and not equivalent to HLTAID005 Provide first aid in remote situations.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ced1390f-48d9-4ab0-bd50-b015e5485705>

Assessment Requirements for HLT AID013 Provide First Aid in remote or isolated site

Modification History

Not applicable.

Performance Evidence

Evidence of the ability to complete tasks outlined in elements and performance criteria of this unit in the context of the workplace or community setting.

There must be evidence that the candidate has completed the following tasks in line with State/Territory regulations, first aid codes of practice, first aid guidelines determined by the Australian Resuscitation Council (ARC) guidelines and workplace or site procedures:

- managed, in line with ARC guidelines, the unconscious, breathing casualty including appropriate positioning to reduce the risk of airway compromise
- managed, in line with ARC guidelines, the unconscious, non-breathing adult including:
 - performing at least 2 minutes of uninterrupted single rescuer cardiopulmonary resuscitation (CPR) (5 cycles of both compressions and ventilations) on an adult resuscitation manikin placed on the floor
 - performing at least 2 minutes of ventilation and at least 2 minutes of compressions during a two-rescuer procedure on an adult resuscitation manikin placed on the floor
 - following the prompts of an automated external defibrillator (AED) to deliver at least one shock
 - responding appropriately in the event of regurgitation or vomiting
 - demonstrating a rotation of operators with minimal interruptions to compressions
- managed, in line with ARC guidelines, the unconscious, non-breathing infant, including:
 - performing at least 2 minutes of uninterrupted single rescuer CPR (5 cycles both compressions and ventilations) on an infant resuscitation manikin placed on a firm surface
- managed casualties, with the following:
 - anaphylaxis
 - asthma
 - non-life-threatening bleeding
 - choking
 - minor wound cleaning and dressing
 - nosebleed
 - shock
 - envenomation, using pressure immobilisation
 - fractures, dislocations, sprains and strains, using appropriate immobilisation techniques for remote situations and appropriate equipment improvisations

- head, neck and spinal injuries
- hypothermia and hyperthermia
- life threatening bleeding requiring use of tourniquets and haemostatic dressings
- responded to at least one simulated first aid incident contextualised to the candidate's workplace or community setting, where the candidate has no knowledge of the casualty's condition prior to starting treatment, including:
 - identifying the casualty's illness or injury through history, signs and symptoms
 - using personal protective equipment (PPE) as required
 - conducting a secondary survey assessment
 - assessing vital signs respirations, pulse, temperature
 - level of consciousness
 - providing appropriate first aid treatment
 - conveying incident details to emergency services or advising casualty on any required post incident action
 - providing an accurate verbal and written report of the incident
 - reviewing the incident
- conducted a basic triage for a multiple casualty incident.

Knowledge Evidence

Demonstrated knowledge required to complete the tasks outlined in elements and performance criteria of this unit:

- guidelines and procedures including:
 - ARC guidelines relevant to the provision of first aid
 - first aid guidelines from Australian national peak clinical bodies including those relevant to remote or isolated sites
 - potential incident hazards and risk minimisation processes when providing first aid
 - infection control procedures, including use of standard precautions and resuscitation barrier devices
 - requirements for currency of skill and knowledge
 - first aid codes of practice
 - appropriate workplace or site procedures relevant to the provision of first aid
 - contents of first aid kits
- legal, workplace and community considerations including:
 - duty of care requirements
 - own skills and limitations
 - consent and how it relates to the conscious and unconscious casualty
 - privacy and confidentiality requirements
 - awareness of potential need for stress management techniques and available support for rescuers
- in relation to the administration of medication

- legal requirements
- the five rights
- the responsibilities of the first aider
- considerations when providing CPR, including:
 - upper airway and effect of positional change
 - appropriate duration and cessation of CPR
 - appropriate use of an AED
 - safety and maintenance procedures for an AED
 - chain of survival
 - how to access emergency services
- techniques for providing CPR to adults, children and infants including:
 - how to recognise that a casualty is unconscious and not breathing normally
 - rate, ratio and depth of compressions and ventilations
 - correct hand positioning for compressions
 - basic anatomy, physiology and the differences between adults, children and infants relating to CPR
- signs, symptoms and management of the following conditions or injuries:
 - allergic reaction
 - anaphylaxis
 - asthma
 - non-life-threatening bleeding
 - burns
 - cardiac conditions, including chest pain
 - choking
 - diabetes
 - drowning
 - envenomation - all current treatments
 - eye injuries
 - fractures, dislocations, sprains and strains
 - head, neck and spinal injuries
 - hypothermia
 - hyperthermia
 - minor wounds
 - nose-bleed
 - poisoning
 - seizures
 - shock
 - sharps injuries
 - stroke
 - life threatening bleeding including use of tourniquets and haemostatic dressings

- considerations when providing first aid including:
 - assessment, interpretation and documentation of vital signs, including normal clinical values for respirations, temperature, pulse and level of consciousness
 - how to conduct a secondary assessment of a casualty
 - basic triage processes
 - ongoing care requirements of casualty beyond initial treatment
- remote considerations in the provision of first aid, including:
 - the nature of remote or isolated sites and how this may impact on first aid management
 - key features, functions and limitations of different types of emergency communication equipment used in remote or isolated sites, and factors that affect choice:
 - radio equipment
 - mobile phones
 - satellite phones
 - alerting and tracking devices including personal locator beacons (PLBs)
 - management options relating to transporting casualty, including aero-medical evacuation
 - specific considerations contextualised to alpine, desert, marine, rural or remote settings and tropical environments
 - methods used to assist emergency services to locate incident sites and the key features, functions and limitations of resources used to assist:
 - verbal directions
 - flags
 - flares or smoke
 - fires
 - use of man-made and natural resources to supplement first aid equipment
 - content of remote area first aid kits
 - content of remote area medication boxes
- psychological impacts of first aid incidents on rescuers and how to seek help.
-

Assessment Conditions

Each candidate to demonstrate skills in an environment that provides realistic in-depth, scenarios and simulations to assess candidates' skills and knowledge.

Scenarios must concentrate on the significance of remote or isolated site circumstances.

Due to the nature of this type of training, it is acceptable for the performance evidence to be collected in a simulated environment.

Compression and ventilation skills must be demonstrated on resuscitation manikins following ARC guidelines for the purpose of assessment of CPR procedures.

Assessment must ensure access to:

- adult and infant resuscitation manikin following ARC guidelines for the purpose of assessment of CPR procedures
- adrenaline auto-injector training device
- AED training devices
- placebo bronchodilator and spacer device
- haemostatic dressings
- haemostatic wound packing trainer
- thermometers
- tourniquets
- tourniquet trainer
- different types of wound dressings and bandages
- blankets and items to manage a casualty for shock
- personal protective equipment (PPE)
- workplace injury, trauma or illness record, or other appropriate workplace or site incident report form, which includes space for recording vital signs of casualties
- remote first aid kits
- immobilisation devices.

Simulated assessment environments must simulate real-life situations where these skills and knowledge would be performed, with all the relevant equipment and resources of that workplace or community environment.

Assessors must satisfy the Standards for Registered Training Organisations' requirements for assessors and must hold this unit or demonstrate equivalent skills and knowledge to that contained within this unit.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ced1390f-48d9-4ab0-bd50-b015e5485705>

HLTAID014 Provide Advanced First Aid

Modification History

Not applicable.

Application

This unit describes the skills and knowledge required to provide an advanced first aid response to a casualty in line with first aid guidelines determined by the Australian Resuscitation Council (ARC) and other Australian national peak clinical bodies.

The unit applies to all persons who may be required to provide an advanced first aid response in a range of situations, including community and workplace settings.

Specific licensing/regulatory requirements relating to this competency, including requirements for refresher training should be obtained from the relevant national/state/territory Work Health and Safety Regulatory Authorities.

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential outcomes

Performance criteria describe the performance needed to demonstrate achievement of the element.

1. Respond to an emergency situation.

- 1.1. Recognise and assess an emergency situation.
- 1.2. Ensure safety for self, bystanders and casualty.
- 1.3. Assess the casualty and recognise the need for first aid response.
- 1.4. Deploy resources to appropriate locations as required in line with appropriate workplace or site procedures.
- 1.5. Seek assistance from emergency services.

2. Apply appropriate first aid procedures.

- 2.1. Perform single-rescuer or two-rescuer cardiopulmonary resuscitation (CPR) in accordance with the ARC guidelines and availability of rescuers.
- 2.2. Provide first aid in accordance with established first aid principles.
- 2.3. Display respectful behaviour towards casualty.
- 2.4. Obtain consent from casualty where possible.
- 2.5. Use available resources and equipment to make the casualty as comfortable as possible.
- 2.6. Operate first aid and ancillary equipment according to manufacturers' instructions.

- 2.7. Monitor the casualty's condition and respond in accordance with first aid principles.
3. Coordinate first aid activities until arrival of medical assistance.
 - 3.1. Identify available resources required and establish communication links with appropriate personnel, emergency services or medical assistance as appropriate.
 - 3.2. Deploy required resources to appropriate locations in an efficient and effective manner to ensure timely treatment of casualties.
 - 3.3. Monitor the condition of casualties in accordance with first aid principles and workplace or site procedures.
 - 3.4. Coordinate evacuation of casualties according to relevant evacuation procedures.
4. Communicate details of the incident.
 - 4.1. Accurately convey incident details to emergency services.
 - 4.2. Report details of incident in line with appropriate workplace or site procedures.
 - 4.3. Complete applicable workplace or site documentation, including incident report form.
 - 4.4. Maintain privacy and confidentiality of information in line with statutory or organisational policies.
5. Review the incident.
 - 5.1. Recognise the possible psychological impacts on self and other rescuers and seek help when required.
 - 5.2. Arrange support services for personnel involved in the incident in accordance with relevant procedures.
 - 5.3. Contribute to a review of the first aid response as required.

Foundation Skills

The Foundation Skills describe those required skills (language, literacy, numeracy and employment skills) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Supersedes and not equivalent to HLTAID006 Provide advanced first aid.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ced1390f-48d9-4ab0-bd50-b015e5485705>

Assessment Requirements for HLT AID014 Provide Advanced First Aid

Modification History

Not applicable.

Performance Evidence

Evidence of the ability to complete tasks outlined in elements and performance criteria of this unit in the context of the workplace or community setting.

There must be evidence that the candidate has completed the following tasks in line with State/Territory regulations, first aid codes of practice, first aid guidelines determined by the Australian Resuscitation Council (ARC) and other Australian national peak clinical bodies and workplace or site procedures:

- managed, in line with ARC guidelines, the unconscious, breathing casualty including appropriate positioning to reduce the risk of airway compromise
- managed in line with ARC guidelines, the unconscious, non-breathing adult including:
 - performing at least 2 minutes of uninterrupted single rescuer cardiopulmonary resuscitation (CPR) (5 cycles of both compressions and ventilations) on an adult resuscitation manikin placed on the floor
 - performing at least 2 minutes of ventilation and at least 2 minutes of compression during a two-rescuer procedure on an adult resuscitation manikin placed on the floor
 - following the prompts of an automated external defibrillator (AED) to deliver at least one shock
 - responding appropriately in the event of regurgitation or vomiting
 - demonstrating a rotation of operators with minimal interruptions to compressions
- managed, in line with ARC guidelines, the unconscious, non-breathing infant, including:
 - performing at least 2 minutes of uninterrupted single rescuer CPR (5 cycles both compressions and ventilations) on an infant resuscitation manikin placed on a firm surface
- managed casualties, with the following:
 - anaphylaxis
 - asthma
 - non-life-threatening bleeding
 - choking
 - envenomation, using pressure immobilisation
 - fractures, dislocations, sprains and strains, using appropriate immobilisation techniques
 - minor wound cleaning and dressing
 - nosebleed

- shock
- life threatening bleeding requiring use of tourniquets and haemostatic dressings
- responded to at least two simulated first aid incidents, one medical and one trauma contextualised to the candidate's workplace or community setting, where the candidate has no knowledge of the casualty's condition prior to starting treatment, including:
 - identifying the casualty's illness or injury through history, signs and symptoms
 - using personal protective equipment (PPE) as required
 - conducting a secondary survey assessment
 - assessing vital signs respirations, pulse, temperature
 - level of consciousness
 - providing appropriate first aid treatment
 - conveying incident details to emergency services or advising casualty on any required post-incident action
 - providing an accurate verbal and written report of the incident
 - reviewing the incident
- coordinated a team of people to respond to a multiple casualty incident, including:
 - conducting a basic triage
 - demonstrating effective use of resources
 - demonstrating effective planning techniques
 - moving casualties using suitable extraction method and device and safe manual handling techniques.

Knowledge Evidence

Demonstrated knowledge required to complete the tasks outlined in elements and performance criteria of this unit:

- guidelines and procedures including:
 - ARC guidelines relevant to the provision of first aid
 - first aid guidelines from Australian national peak clinical bodies
 - potential incident hazards and risk minimisation processes when providing first aid
 - infection control procedures, including use of standard precautions and resuscitation barrier devices
 - requirements for currency of skill and knowledge
 - first aid codes of practice
 - appropriate workplace or site procedures relevant to the provision of first aid
 - contents of first aid kits
- legal, workplace and community considerations including:
 - duty of care requirements
 - own skills and limitations
 - consent and how it relates to the conscious and unconscious casualty
 - privacy and confidentiality requirements

- awareness of potential need for stress management techniques and available support for rescuers
- in relation to the administration of medication
 - legal requirements
 - the five rights
 - the responsibilities of the first aider
- considerations when providing CPR, including:
 - upper airway and effect of positional change
 - appropriate duration and cessation of CPR
 - appropriate use of an AED
 - safety and maintenance procedures for an AED
 - chain of survival
 - how to access emergency services
- techniques for providing CPR to adults, children and infants including:
 - how to recognise that a casualty is unconscious and not breathing normally
 - rate, ratio and depth of compressions and ventilations
 - correct hand positioning for compressions
 - basic anatomy, physiology and the differences between adults, children and infants relating to CPR
- considerations when providing first aid, including:
 - assessment, interpretation and documentation of vital signs, including normal clinical values for respirations, temperature, pulse and level of consciousness
 - how to conduct a secondary assessment of a casualty
 - basic triage processes
 - procedures for dealing with casualties who are aged or infirm
 - procedures for first aid management when dealing with major and minor accidents in the workplace or site
 - procedures when providing first aid to children
 - use of ancillary first aid equipment
 - co-ordination of resources
 - contents of first aid kits
- signs, symptoms and management of the following conditions or injuries:
 - abdominal injuries
 - allergic reaction
 - anaphylaxis
 - asthma
 - non-life-threatening bleeding
 - life-threatening bleeding including use of tourniquets and haemostatic dressings
 - burns
 - cardiac conditions, including chest pain

- childbirth
- choking
- crush injuries
- diabetes
- drowning
- ear injuries and bleeding from the ear
- envenomation - all current treatments
- eye injuries
- fractures, dislocations, strains and sprains
- head, neck and spinal injuries
- hypothermia
- hyperthermia
- minor wounds
- nose-bleed
- poisoning
- seizures
- shock
- sharps injuries
- stroke
- substance misuse, including prescription and illicit drugs and alcohol
- psychological impacts of first aid incidents on rescuers and how to seek help.

Assessment Conditions

Each candidate to demonstrate skills in an environment that provides realistic in-depth, scenarios and simulations to assess candidates' skills and knowledge.

Due to the nature of this type of training, it is acceptable for the performance evidence to be collected in a simulated environment.

Compression and ventilation skills must be demonstrated on resuscitation manikins following ARC guidelines for the purpose of assessment of CPR procedures.

Assessment must ensure access to:

- adult and infant resuscitation manikins following ARC guidelines for the purpose of assessment of CPR procedures
- adrenaline auto-injector training device
- AED training devices
- haemostatic dressings
- haemostatic wound packing trainer
- placebo bronchodilator and spacer device
- thermometers
- tourniquet trainer
- tourniquets

- different types of wound dressings and bandages
- blankets and items to treat for shock
- personal protective equipment (PPE)
- workplace injury, trauma or illness record, or other applicable workplace or site incident report form, which includes space for recording vital signs of casualties
- workplace first aid kits
- immobilisation and extrication devices.

Simulated assessment environments must simulate real-life situations where these skills and knowledge would be performed, with all the relevant equipment and resources of that workplace or community environment.

Assessors must satisfy the Standards for Registered Training Organisations' requirements for assessors and must hold this unit or demonstrate equivalent skills and knowledge to that contained within this unit.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ced1390f-48d9-4ab0-bd50-b015e5485705>

HLTAID016 Manage first aid services and resources

Modification History

Not applicable.

Application

This unit describes the skills and knowledge required to establish, maintain and facilitate the provision of appropriate first aid in the workplace.

The unit applies to workers in nominated occupational first aid or management roles.

Specific licensing/regulatory requirements relating to this competency, including requirements for refresher training should be obtained from the relevant national/state/territory Work Health and Safety Regulatory Authorities.

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential outcomes

Performance criteria describe the performance needed to demonstrate achievement of the element.

- | | |
|---|--|
| 1. Determine workplace first aid requirements. | 1.1. Identify workplace hazards and assess associated risks as a basis for determining first aid resource requirements.
1.2. Identify first aid equipment, resources and personnel required to address workplace requirements.
1.3. Develop first aid action plans in consultation with relevant parties.
1.4. Provide information to minimise risk and enable access to first aid facilities. |
| 2. Establish and maintain workplace first aid facilities. | 2.1. Monitor and maintain availability of first aid equipment and personnel to support workplace first aid response.
2.2. Conduct inspections of first aid stock and equipment to ensure currency and operational readiness in line with workplace requirements.
2.3. Ensure equipment is recovered and reprocessed and that waste is disposed of safely according to legislative and workplace procedures.
2.4. Ensure equipment and resources are stored and maintained in line with relevant legislation and manufacturers' or suppliers' instructions.
2.5. Deploy appropriate equipment and personnel to ensure |

- timely and effective first aid response in line with workplace requirements.
3. Maintain workplace first aid records.
 - 3.1. Ensure documentation is completed in line with legislation and workplace procedures.
 - 3.2. Maintain first aid records in line with legislative requirements and workplace security practices.
 - 3.3. Send relevant documents to appropriate bodies in line with workplace and legislative requirements.
 - 3.4. Maintain privacy and confidentiality of records and information in line with privacy legislation and organisational policies.
 4. Review the provision of first aid in the workplace.
 - 4.1. Participate in incident debriefing or evaluation to improve future operations and address individual needs.
 - 4.2. Evaluate management of workplace first aid incidents in relation to required equipment, personnel, current organisational procedures and individual first aid action plans.
 - 4.3. Contribute to the review of workplace policies and procedures in accordance with risk assessment and evaluation of first aid provision.

Foundation Skills

The Foundation Skills describe those required skills (language, literacy, numeracy and employment skills) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Supersedes and is equivalent to HLTAID008 Manage first aid services and resources

Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ced1390f-48d9-4ab0-bd50-b015e5485705>

Assessment Requirements for HLT AID016 Manage first aid services and resources

Modification History

Not applicable.

Performance Evidence

Evidence of the ability to complete tasks outlined in elements and performance criteria of this unit in the context of the job role.

There must be evidence that the candidate has completed the following tasks in line with State or Territory regulations, first aid codes of practice, Australian Resuscitation Council (ARC) guidelines and workplace procedures:

- conducted a workplace risk assessment and evaluation of first aid provisions
- developed a first aid action plan including strategies for management of incidents and individuals needs in accordance with workplace policies and procedures
- used a first aid checklist to service a workplace first aid kit for supplies' replacement and equipment maintenance
- maintained first aid equipment and resources according to manufacturers' instructions
- used and maintained documentation required by the workplace and regulatory authorities.

Knowledge Evidence

Demonstrated knowledge required to complete the tasks outlined in elements and performance criteria of this unit:

- state/territory regulations, first aid codes of practice and workplace procedures including:
 - workplace requirements for first aid provision in line with the relevant state/territory Work Health and Safety requirements
 - duty of care in relation to first aid provision
 - safe work practices to deal with risks and potential hazards including manual handling, hazardous substances, dangerous goods and chemicals
 - infection control principles and procedures, including use of standard precautions based on incident
 - requirements for currency of skill and knowledge
- legal, workplace or community issues relating to the provision of first aid including:
 - awareness of potential need for stress-management techniques and available support following an emergency situation
 - consent
 - capabilities of emergency management services
 - privacy and confidentiality requirements

- importance of debriefing.

Assessment Conditions

Skills must be demonstrated in an environment that provides realistic in-depth, scenarios and simulations to assess candidates' skills and knowledge.

Assessment must ensure access to:

- first aid kit and contents checklist
- workplace injury, trauma and/or illness record, or other applicable workplace or site incident report form
- relevant State or Territory Work Health and Safety First Aid Code of Practice.

Simulated assessment environments must simulate the real-life working environment where these skills and knowledge would be performed, with all the relevant equipment and resources of that working environment, including workplace resources required by the relevant state/territory Work Health and Safety Regulatory Authority.

Assessors must satisfy the Standards for Registered Training Organisations' requirements for assessors.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ced1390f-48d9-4ab0-bd50-b015e5485705>

MEM05006 Perform brazing and/or silver soldering

Modification History

Release 1. Supersedes and is equivalent to MEM05006C Perform brazing and/or silver soldering

Application

This unit of competency defines the skills and knowledge required to perform brazing (including braze welding) and/or silver soldering and includes the preparation of materials and equipment and the inspection of the completed work.

It applies to silver soldering and brazing using all grades of silver solder and braze.

Where the interpretation of technical drawings is required unit MEM09002 Interpret technical drawing should also be selected.

Where the selection and use of engineering measuring equipment is required unit MEM12023 Perform engineering measurements should also be selected.

Where the selection and use of tools is required see unit MEM18001 Use hand tools and unit MEM18002 Use power tools/hand held operations, should also be selected as appropriate.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Band: A

Unit Weight: 2

Pre-requisite Unit

MEM11011	Undertake manual handling
MEM13015	Work safely and effectively in manufacturing and engineering
MEM16006	Organise and communicate information

Competency Field

Fabrication

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

- | | | | |
|---|-----------------------------------|-----|--|
| 1 | Determine job requirements | 1.1 | Follow standard operating procedures (SOPs) |
| | | 1.2 | Comply with work health and safety (WHS) requirements at all times |
| | | 1.3 | Use appropriate personal protective equipment (PPE) in accordance with SOPs |
| | | 1.4 | Identify job requirements from specifications, sketches, job sheets or work instructions |
| | | | |
| 2 | Prepare heating equipment | 2.1 | Select the correct process to meet the job specifications |
| | | 2.2 | Ensure heating equipment is in safe working condition |
| | | 2.3 | Assemble heating equipment and set up according to SOPs |
| | | 2.4 | Determine and set gas pressures |
| | | | |
| 3 | Prepare materials | 3.1 | Select and prepare consumables |
| | | 3.2 | Prepare materials using appropriate tools and techniques |
| | | 3.3 | Assemble/align materials to meet specifications |
| | | 3.4 | Identify distortion prevention measures and take appropriate action |
| | | 3.5 | Undertake test run and verify |
| | | | |
| 4 | Braze and/or silver solder | 4.1 | Preheat materials as required |
| | | 4.2 | Apply consumables using appropriate techniques |

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

4.3 Apply jointing material in appropriate quantities

4.4 Anneal material where required

5 Inspect joints

5.1 Remove excess jointing materials

5.2 Inspect joints and report/record inspection results according to SOPs

Foundation Skills

This section describes those required skills (reading, writing, oral communication and numeracy) that are essential to workplace performance in this unit of competency.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Materials include one (1) or more of the following:

- ferrous
- non-ferrous

Fuel gases include one (1) or more of the following:

- acetylene
- liquefied petroleum gas (LPG)
- hydrogen

Heating equipment includes the following:

- gas cylinders
- hoses
- blowpipes
- tips and nozzles
- regulators

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

- flashback arrestors

Consumables include one (1) or more of the following:

- fluxes (resin or powder)
- all types of silver solder
- brazing grades

Process includes one (1) or more of the following:

- brazing
- braze welding
- silver soldering

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM05006C Perform brazing and/or silver soldering

Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

Assessment Requirements for MEM05006 Perform brazing and/or silver soldering

Modification History

Release 1. Supersedes and is equivalent to MEM05006C Perform brazing and/or silver soldering

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria on at least two (2) occasions and include:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- checking condition of equipment
- setting up:
 - gas cylinders
 - hoses
 - blowpipes
 - tips and nozzles
 - regulators
 - flashback arrestors
- preparing to braze and/or silver solder by assembling/aligning materials in an appropriate manner and applying distortion prevention methods to meet specifications
- applying consumables and brazing and/or silver soldering ferrous and non-ferrous materials
- annealing material using appropriate techniques
- inspecting joints and removing excess jointing materials and recording the results.

Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include knowledge of:

- safe work practices and procedures and use of personal protective equipment (PPE)
- potential equipment faults
- reasons for selecting specific methods of assembly/alignment
- procedures for minimising distortion of the materials being brazed/braze welded/silver soldered
- procedures for assembling and setting up the specific heating equipment and reasons for selection
- reasons for selecting specific consumables

- procedures for preheating the materials to be joined and precautions to be observed
- conducting test runs
- procedures for normalising the temperature of jointed materials and the consequences of inappropriate techniques
- typical applications of brazing/braze welding and silver soldering processes
- procedures for removing excess jointing material
- effects of the use of inappropriate techniques and quantities of jointing material on the performance of the jointed materials
- procedures for inspecting brazed/braze welded/silver soldered joints.

Assessment Conditions

- Assessors must:
 - have vocational competency in performing brazing and or silver soldering at least to the level being assessed with relevant industry knowledge and experience
 - satisfy the assessor requirements in the *Standards for Registered Training Organisations 2015* or its replacement and comply with the *National Vocational Education and Training Regulator Act 2011*, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires
- Where possible assessment must occur in operational workplace situations. Where this is not possible or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

MEM05049 Perform routine gas tungsten arc welding

Modification History

Release 1. Supersedes and is equivalent to MEM05049B Perform routine gas tungsten arc welding

Application

This unit of competency defines the skills and knowledge required to prepare the materials and carry out routine gas tungsten arc welding (GTAW) and applies in a maintenance or manufacturing environment where the weld quality is not required to meet an Australian Standard.

Where welding is required to meet AS 1554 General Purpose or equivalent codes, work health and safety (WHS) regulations and/or licensing requirements Unit MEM05019 Weld using gas tungsten arc welding process should also be selected.

Where the interpretation of technical drawings is required unit MEM09002 Interpret technical drawing should also be selected.

Where the selection and use of engineering measurement is required unit MEM12023 Perform engineering measurements should also be selected.

Where the selection and use of tools is required unit MEM18001 Use hand tools and unit MEM18002 Use power tools/hand held operations, should also be selected as appropriate.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Band: A

Unit Weight: 2

Pre-requisite Unit

MEM11011	Undertake manual handling
MEM13015	Work safely and effectively in manufacturing and engineering
MEM16006	Organise and communicate information

Competency Field

Fabrication

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1	Determine job requirements	1.1	Follow standard operating procedures (SOPs)
		1.2	Comply with work health and safety (WHS) requirements at all times
		1.3	Use appropriate personal protective equipment (PPE) in accordance with SOPs
		1.4	Identify job requirements from specifications, sketches, job sheets or work instructions
2	Prepare materials and equipment for welding	2.1	Identify location of welds in accordance with procedures and job specifications
		2.2	Clean and prepare materials ready for welding
		2.3	Set up welding equipment to meet work requirement
		2.4	Select settings and consumables to suit application
3	Perform routine welding using GTAW	3.1	Weld materials to job requirements
		3.2	Clean welds according to SOPs

Foundation Skills

This section describes those required skills (reading, writing, oral communication and numeracy) that are essential to workplace performance in this unit of competency.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Welds include the following:

- butt
- fillet

Materials include one (1) or more of the following:

- low carbon/mild steels
- aluminium

Prepared includes one (1) or more of the following:

- pre-heating
- setting up jigs
- fixtures
- clamps
- joint preparation

Welding equipment includes the following:

- hoses
- welding leads and gas shrouds
- electrodes
- gas regulator
- liners
- contact tips

Consumables include the following:

- tungsten electrodes, filler wire and shielding gas

Clean includes the following:

- slag and spatter

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM05049B Perform routine gas tungsten arc welding

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

Assessment Requirements for MEM05049 Perform routine gas tungsten arc welding

Modification History

Release 1. Supersedes and is equivalent to MEM05049B Perform routine gas tungsten arc welding

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria on at least two (2) occasions and include:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- identifying and interpreting specifications from sketches and verbal or written job instructions for performing routine gas tungsten arc welding (GTAW)
- cleaning and preparing materials for welding to specifications
- setting up welding equipment, including selecting settings and consumables to suit application
- consistently welding materials to specifications
- cleaning welds in accordance with SOPs.

Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include knowledge of:

- safe welding practices and procedures and use of personal protective equipment (PPE)
- preparatory requirements
- equipment and equipment settings
- shielding gas properties and applications
- weld characteristics.

Assessment Conditions

- Assessors must:
 - have vocational competency in performing routine GTAW process at least to the level being assessed with relevant industry knowledge and experience
 - satisfy the assessor requirements in the *Standards for Registered Training Organisations 2015* or its replacement and comply with the *National Vocational Education and Training Regulator Act 2011*, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires

- Where possible assessment must occur in operational workplace situations. Where this is not possible or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

MEM05050 Perform routine gas metal arc welding

Modification History

Release 1. Supersedes and is equivalent to MEM05050B Perform routine gas metal arc welding

Application

This unit of competency defines the skills and knowledge required to prepare materials and carry out routine gas metal arc welding (GMAW) and applies in a maintenance or manufacturing environment where the weld quality is not required to meet an Australian Standard or equivalent.

Where welding is required to meet AS 1554 General Purpose or equivalent codes, work health and safety (WHS) regulations and/or licensing requirements unit MEM05017 Weld using gas metal arc welding process should also be selected.

Where the interpretation of technical drawings is required unit MEM09002 Interpret technical drawing should also be selected.

Where the selection and use of engineering measurement is required unit MEM12023 Perform engineering measurements should also be selected.

Where the selection and use of tools is required unit MEM18001 Use hand tools and unit MEM18002 Use power tools/hand held operations, should also be selected as appropriate.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Band: A

Unit Weight: 2

Pre-requisite Unit

MEM11011	Undertake manual handling
MEM13015	Work safely and effectively in manufacturing and engineering
MEM16006	Organise and communicate information

Competency Field

Fabrication

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1	Determine job requirements	1.1 Follow standard operating procedures (SOPs) 1.2 Comply with work health and safety (WHS) requirements at all times 1.3 Use appropriate personal protective equipment (PPE) in accordance with SOPs 1.4 Identify job requirements from specifications, sketches, job sheets or work instructions
2	Prepare materials and equipment for welding	2.1 Identify location of welds in accordance with procedures and job specifications 2.2 Clean and prepare materials ready for welding 2.3 Set up welding equipment to meet work requirement 2.4 Select settings and consumables to suit application
3	Perform routine welding using GMAW	3.1 Weld materials to job requirements 3.2 Clean welds according to SOPs

Foundation Skills

This section describes those required skills (reading, writing, oral communication and numeracy) that are essential to workplace performance in this unit of competency.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Welds include the following:

- butt
- fillet

Materials include one (1) or more of the following:

- low carbon
- mild steels

Prepared includes one (1) or more of the following:

- pre-heating
- setting up jigs
- fixtures
- clamps
- joint preparation

Welding equipment includes the following:

- hoses
- welding leads and gas shrouds
- gas regulators
- liners
- contact tips

Consumables include the following:

- filler wire and shielding gas

Clean includes the following:

- slag and spatter

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM05050B Perform routine gas metal arc welding

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

Assessment Requirements for MEM05050 Perform routine gas metal arc welding

Modification History

Release 1. Supersedes and is equivalent to MEM05050B Perform routine gas metal arc welding

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria on at least two (2) occasions and include:

- following work instructions, standard operating procedures and safe work practices
- identifying and interpreting specifications from sketches and verbal or written job instructions for performing routine gas metal arc welding (GMAW)
- cleaning and preparing materials for welding to specifications
- setting up welding equipment, including selecting settings and consumables to suit application
- consistently welding materials to specifications
- cleaning welds in accordance with SOPs.

Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include knowledge of:

- safe welding practices and procedures and use of personal protective equipment (PPE)
- different current and voltage settings, gas flow rates wire diameters, wire feed speed and other variables to suit typical situations
- material and equipment preparation
- properties and characteristics of materials and consumables
- equipment and equipment settings
- shielding gas properties and applications
- post-welding treatments
- weld characteristics.

Assessment Conditions

- Assessors must:
 - have vocational competency in performing routine GMAW process at least to the level being assessed with relevant industry knowledge and experience

- satisfy the assessor requirements in the *Standards for Registered Training Organisations 2015* or its replacement and comply with the *National Vocational Education and Training Regulator Act 2011*, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires
- Where possible assessment must occur in operational workplace situations. Where this is not possible or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

MEM09002 Interpret technical drawing

Modification History

Release 1. Supersedes and is equivalent to MEM09002B Interpret technical drawing

Application

This unit of competency defines the skills and knowledge required to interpret technical drawings.

Technical drawings may utilise perspective, exploded views or hidden view techniques and may include symbol glossaries. Drawings are provided to AS 1100 Technical drawing or AS 1102 Graphical symbols and their equivalents from the full range of engineering disciplines.

Where any technical drawing, sketch, chart, diagram is only used as a technique for communication, then this unit does not apply: unit MEM12023 Perform engineering measurements or unit MEM16006 Organise and communicate information should be selected as appropriate.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Band: A

Unit Weight: 4

Pre-requisite Unit

MEM12023	Perform engineering measurements
MEM12024	Perform computations
MEM13015	Work safely and effectively in manufacturing and engineering
MEM16006	Organise and communicate information

Competency Field

Drawing, drafting and design

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

- | | |
|---------------------------------------|---|
| 1. Determine job requirements | 1.1 Follow standard operating procedures (SOPs) |
| | 1.2 Comply with work health and safety (WHS) requirements at all times |
| | 1.3 Identify job requirements from specifications, job sheets or associated work instructions |
| 2. Interpret technical drawing | 2.1 Check drawing and version and validate against job requirements |
| | 2.2 Recognise components and assemblies or objects |
| | 2.3 Identify dimensions, instructions and material requirements |
| | 2.4 Recognise symbols used in the drawing |
| | 2.5 Compile list of required materials |

Foundation Skills

This section describes those required skills (reading, writing, oral communication and numeracy) that are essential to workplace performance in this unit of competency.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Drawing interpretation includes recognising the following:

- relationship between the views contained in the drawing
- objects
- units of measurement

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

- dimensions of the key features
- symbols

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM09002B Interpret technical drawing

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

Assessment Requirements for MEM09002 Interpret technical drawing

Modification History

Release 1. Supersedes and is equivalent to MEM09002B Interpret technical drawing

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria on at least two (2) occasions and include:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- selecting, checking and validating technical drawing against job requirements or equipment
- interpreting technical drawing through recognition of components, assemblies, objects and symbols
- identifying dimensions
- applying drawing conventions appropriate to engineering discipline
- compiling a materials list.

Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include knowledge of:

- safe work practices and procedures and use of personal protective equipment (PPE)
- application of AS 1100 Technical drawing or AS 1102 Graphical symbols
- conventions used in technical drawings
- correct interpretation of instructions contained in drawings
- materials from which drawing object(s) are made and their features and manufacturing and assembly requirements.

Assessment Conditions

- Assessors must:
 - have vocational competency in interpreting technical drawings at least to the level being assessed with relevant industry knowledge and experience
 - satisfy the assessor requirements in the *Standards for Registered Training Organisations 2015* or its replacement and comply with the *National Vocational Education and Training Regulator Act 2011*, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires

- Where possible assessment must occur in operational workplace situations. Where this is not possible or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

MEM11011 Undertake manual handling

Modification History

Release 1. Supersedes and is equivalent to MEM11011B Undertake manual handling

Application

This unit of competency defines the skills and knowledge required to lift and move materials manually and/or using basic manual handling equipment in a wide range of environments.

Maximum manual lifting weight is limited to Safe Work Australia recommendations.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Band: A

Unit Weight: 2

Pre-requisite Unit

MEM13015	Work safely and effectively in manufacturing and engineering
MEM16006	Organise and communicate information

Competency Field

Materials handling

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	Determine job requirements	1.1	Follow standard operating procedures (SOPs)
		1.2	Comply with work health and safety (WHS) requirements at all times

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	<p>1.3 Use appropriate personal protective equipment (PPE) in accordance with SOPs</p> <p>1.4 Identify job requirements from specifications, job sheets or work instructions</p>
2 Lift materials manually	<p>2.1 Determine material weight correctly utilising most appropriate technique, and assess risks associated with lifting</p> <p>2.2 Undertake lifting techniques to Safe Work Australia recommended procedures and having regard to types of movement, methods, storage, height and position</p>
3 Move/shift materials manually	<p>3.1 Select appropriate equipment, as required</p> <p>3.2 Place material safely and securely on moving equipment</p> <p>3.3 Relocate material ensuring safety of personnel and security of material</p> <p>3.4 Unload material and place in a safe and secure manner</p>

Foundation Skills

This section describes those required skills (reading, writing, oral communication and numeracy) that are essential to workplace performance in this unit of competency.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Material weight includes

- determined using scales

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

one (1) or more of the following:

- interpreting signage

Lifting techniques include one (1) or more of the following:

- individual
- team lifting
- use of appropriate lifting equipment

Appropriate equipment includes one (1) or more of the following:

- hand trolleys
- wheelbarrows
- motorised/hand pallet trucks (not sit on)
- hand carts
- dedicated production or process lifting equipment
- baskets, spreader bars, cradles or the like attached to lifting equipment

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM11011B Undertake manual handling

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

Assessment Requirements for MEM11011 Undertake manual handling

Modification History

Release 1. Supersedes and is equivalent to MEM11011B Undertake manual handling

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria on at least two (2) occasions and include:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- assessing the risks associated with lifting materials manually and determining the most appropriate technique
- selecting and using the appropriate equipment to move/shift materials ensuring safety of personnel and security of material.

Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include knowledge of:

- safe work practices and procedures and use of personal protective equipment (PPE)
- manual handling techniques, including individual or team lifting
- appropriate equipment associated with move/shift materials
- hazards of incorrect procedures
- Safe Work Australia standards for manual handling.

Assessment Conditions

- Assessors must:
 - have vocational competency in undertaking manual handling at least to the level being assessed with relevant industry knowledge and experience
 - satisfy the assessor requirements in the *Standards for Registered Training Organisations 2015* or its replacement and comply with the *National Vocational Education and Training Regulator Act 2011*, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires

- Where possible assessment must occur in operational workplace situations. Where this is not possible or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

MEM12023 Perform engineering measurements

Modification History

Release 1. Supersedes and is equivalent to MEM12023A Perform engineering measurements

Application

This unit of competency defines the skills and knowledge required to perform measurements requiring straightforward use of mechanical measuring devices which incorporate visual inspections representing units of measurement and associated calculations in a range of manufacturing, engineering and related environments. Measurements may be expressed in metric or imperial units.

Electrical/electronic devices used are those not requiring the connection or disconnection of circuitry.

Where the interpretation of technical drawings is required unit MEM09002 Interpret technical drawing should also be selected.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Band: A

Unit Weight: 5

Pre-requisite Unit

MEM13015 Work safely and effectively in manufacturing and engineering

MEM16006 Organise and communicate information

Competency Field

Measurement

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

- | | | | |
|---|---|-----|--|
| 1 | Determine job requirements | 1.1 | Follow standard operating procedures (SOPs) |
| | | 1.2 | Comply with work health and safety (WHS) requirements at all times |
| | | 1.3 | Identify job requirements from specifications, sketches, job sheets or work instructions |
| 2 | Select appropriate device or equipment | 2.1 | Determine measurement requirements from specifications |
| | | 2.2 | Select appropriate device or equipment to achieve required outcome according to SOPs |
| 3 | Obtain measurements using a range of measuring devices | 3.1 | Use correct and appropriate measuring technique |
| | | 3.2 | Obtain measurements accurately in a safe and effective manner |
| | | 3.3 | Determine or verify dimensions using calculations, as required |
| 4 | Maintain measuring devices | 4.1 | Undertake routine care and storage of devices to manufacturers' specifications or SOPs |
| | | 4.2 | Make routine adjustments to devices to maintain device accuracy |
| 5 | Communicate measurements as required | 5.1 | Record measurements accurately, as required |
| | | 5.2 | Prepare freehand sketch which depicts required information, as required |

Foundation Skills

This section describes those required skills (reading, writing, oral communication and numeracy) that are essential to workplace performance in this unit of competency.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Specifications include one (1) or more of the following:

- drawings
- sketches
- job instructions
- schematics
- diagrams
- reference manuals

Measuring devices include one (1) or more of the following:

- protractors
- combination squares
- set squares
- dial indicators
- thermometers
- tapes
- rules
- micrometres
- vernier-scaled measuring equipment

Calculations include one (1) or more of the following:

- addition
- subtraction
- multiplication
- division
- fractions
- decimals

Note: Calculations may be made using a calculator

Routine adjustments

- validating the device using simple zeroing or scale adjustment

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

include the following:

Measurements include one (1) or more of the following:

- length
- squareness
- flatness
- angle
- roundness
- clearances
- any other measurements that can be read off analogue, digital or other measuring device

Information includes one (1) or more of the following:

- dimensions
- instructions
- base line
- datum points

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM12023A Perform engineering measurements

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

Assessment Requirements for MEM12023 Perform engineering measurements

Modification History

Release 1. Supersedes and is equivalent to MEM12023A Perform engineering measurements

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria on at least two (2) occasions and include:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- identifying and interpreting measurement requirements from specifications
- selecting appropriate measuring device or equipment to achieve the required outcome
- obtaining measurements in a safe and effective manner and recording measurements, including preparing a freehand sketch which depicts required information, as required
- performing calculations to determine or verify dimensions
- storing and maintaining measuring devices including routine adjustments according to manufacturer's specifications or SOPs.

Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include knowledge of:

- safe work practices and procedures
- correct application of a range of measuring devices
- correct and appropriate measuring technique for a range of measuring devices
- calculations, including addition, subtraction, multiplication, division, fractions and decimals
- manufacturer's or SOPs for handling and storing a range of measuring devices
- appropriate procedures for adjusting and zeroing a range of measuring devices, including scale adjustment
- appropriate methods of communicating measurements by drawings.

Assessment Conditions

- Assessors must:
 - have vocational competency in performing engineering measurements at least to the level being assessed with relevant industry knowledge and experience

- satisfy the assessor requirements in the *Standards for Registered Training Organisations 2015* or its replacement and comply with the *National Vocational Education and Training Regulator Act 2011*, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires
- Where possible assessment must occur in operational workplace situations. Where this is not possible or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Links

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MEM12024 Perform computations

Modification History

Release 1. Supersedes and is equivalent to MEM12024A Perform computations

Application

This unit of competency defines the skills and knowledge required to estimate approximate answers to arithmetical problems, carry out calculations involving percentages and proportions, and determine simple ratios and averages.

It also covers producing and interpreting simple charts and graphs in manufacturing, engineering or related environments.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Band: A

Unit Weight: 3

Pre-requisite Unit

MEM13015 Work safely and effectively in manufacturing and engineering

MEM16006 Organise and communicate information

Competency Field

Measurement

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1	Determine job requirements	1.1	Follow standard operating procedures (SOPs)
		1.2	Comply with work health and safety (WHS)

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element. requirements at all times
	1.3 Identify job requirements from specifications, sketches, job sheets or work instructions
	1.4 Establish required calculation outcomes from job instructions
	1.5 Determine required calculation method to suit the application, including selection of relevant arithmetic operations and/or formulae
	1.6 Estimate expected results, including rounding off, as appropriate
2 Perform calculations	2.1 Apply calculation method
	2.2 Obtain answer and check against estimation to ensure it is correct
3 Produce charts and graphs from given information	3.1 Transpose data to produce charts or graphs
	3.2 Ensure charts or graphs reflect data on which they are based to meet specifications

Foundation Skills

This section describes those required skills (reading, writing, oral communication and numeracy) that are essential to workplace performance in this unit of competency.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Calculations are performed using one (1) or more of the following:

- pen and paper
- a calculator
- tables
- tablets
- computers

Relevant sources include one (1) or more of the following:

- charts
- graphs
- diagrams
- measurement data
- reference manuals
- specifications

Applications include computations associated with one (1) or more of the following:

- pressure
- volume
- temperature
- heat
- speed
- power
- elasticity
- density
- mass
- force

Arithmetic operations include the following:

- application of subtraction, addition, multiplication and division
- manipulation of decimals, fractions and mixed numbers and whole numbers
- using formulas
- determining percentages
- calculation of proportions and ratios

Charts and graphs include one (1) or more of the following:

- simple histograms
- control charts
- pie charts

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM12024A Perform computations

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

Assessment Requirements for MEM12024 Perform computations

Modification History

Release 1. Supersedes and is equivalent to MEM12024A Perform computations

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria on at least two (2) occasions and include:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- obtaining and interpreting data from job instructions and relevant sources to establish required outcomes
- determining the appropriate calculation method to suit the application
- performing calculations and confirming answer/s
- producing and interpreting simple charts and graphs from given data.

Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include knowledge of:

- safe work practices and procedures
- formulae applicable to the determination of perimeter, area and volume of simple geometric shapes and the reasons for using dimensions with the same units
- techniques and procedures for rounding off figures when estimating approximate answers
- features and use of mixed numbers, decimals, fractions and whole numbers
- procedures for carrying out calculations involving fractions and using each of the four basic rules of addition, subtraction, multiplication and division
- concept of percentage and procedures to be followed in converting a decimal and fraction to a percentage
- concepts and calculations of ratio and proportion
- scales applicable to the axes of the graphs or charts
- types of charts and/or graphs used in the individual's field of work
- upper and lower limits of acceptability applicable to data entered on a graph or chart
- trends indicated by the slope or gradient of a graph
- action to be taken when given trends occur or set limits are approached on graphs or charts
- procedures for drawing 'lines of best fit'
- trends indicated by the graphs or charts drawn.

Assessment Conditions

- Assessors must:
 - have vocational competency in performing computations at least to the level being assessed with relevant industry knowledge and experience
 - satisfy the assessor requirements in the *Standards for Registered Training Organisations 2015* or its replacement and comply with the *National Vocational Education and Training Regulator Act 2011*, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires
- Where possible assessment must occur in operational workplace situations. Where this is not possible or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Links

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MEM13003 Work safely with industrial chemicals and materials

Modification History

Release 1. Supersedes and is equivalent to MEM13003B Work safely with industrial chemicals and materials

Application

This unit of competency defines the skills and knowledge required to work safely with industrial chemicals and materials subject to codes and regulations that are stored and used in a workplace, for example, chemicals, solvents, dangerous materials, acids and noxious waste products in a manufacturing and/or engineering environment.

This unit describes the competencies which are beyond those safety requirements normally applied in the workplace as described in unit MEM13015 Work safely and effectively in manufacturing and engineering, or specifically described in individual units, such as welding.

Where the selection and use of engineering measurement is required unit MEM12023 Perform engineering measurements should also be selected.

Evidence of competency is to encompass the satisfactory application of current state/territory work health and safety (WHS) legislation, standards and codes of practice, and the hierarchy of hazard control measures.

Band: A

Unit Weight: 2

Pre-requisite Unit

MEM11011	Undertake manual handling
MEM13015	Work safely and effectively in manufacturing and engineering
MEM16006	Organise and communicate information

Competency Field

Work health and safety

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1	Determine job requirements	1.1	Follow standard operating procedures (SOPs)
		1.2	Comply with work health and safety (WHS) requirements at all times
		1.3	Identify job requirements from specifications, job sheets or work instructions
2	Use personal protective equipment	2.1	Select correct and appropriate personal protective equipment (PPE) and use correctly based on information in relevant safety data sheet (SDS)
3	Adhere to emergency procedures	3.1	Locate emergency equipment and use in accordance with workplace policies and SOPs
		3.2	Demonstrate responses to emergency procedures as detailed in approved safety procedures and instructions
4	Observe safe working practices	4.1	Identify hazardous areas and materials and understand and identify special handling procedures and obtain permits to work, if necessary
		4.2	Use all equipment and hazardous materials in accordance with relevant WHS legislation, manufacturers' instructions and SOPs
		4.3	Identify and understand all site-specific safety policies, safety signs, symbols and labels
		4.4	Interpret and apply SDS
		4.5	Use safe manual handling procedures, including equipment

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 4.6 Ensure decanted chemicals and storage is to state/territory dangerous goods, WHS legislation and requirements
- 4.7 Update chemical manifest following SOPs
- 4.8 Perform housekeeping duties to maintain a safe working environment according to SOPs

Foundation Skills

This section describes those required skills (reading, writing, oral communication and numeracy) that are essential to workplace performance in this unit of competency.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Hierarchy of control measures include the following:

The application of the hierarchy of control follows the six-step preference of control measures to manage and control risk:

1. elimination
2. substitution
3. isolation
4. engineering control measures
5. using safe work practices
6. personal protective equipment (PPE)

PPE includes one (1) or more of the following:

- goggles/face shields
- respirators
- air supplied or self-contained helmets
- safety boots
- gloves and appropriate clothes/garments

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Safe working practices include one (1) or more of the following:

- environment is inspected
- hazards (and chemical reactive hazards) are assessed and controlled using hierarchy of hazard control
- properly maintained PPE is available
- emergency management plan is documented/understood
- work to be undertaken in safe 'thermal' environments and all possible ignition sources are to be identified and controlled

Storage includes the following:

- only using containers, which includes minor quantities and those in consumer packages, that are suitable for chemical exposure
- labelling and/or placarding containers
- updating chemical manifests

State or territory legislative requirements include one (1) or more of the following:

- appropriate WHS
- dangerous goods acts and regulations
- Australian Standards
- Australian Code for the Transport of Dangerous Goods by Road and Rail (ADGC)
- Safe Work Australia codes of practice

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM13003B Work safely with industrial chemicals and materials

Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

Assessment Requirements for MEM13003 Work safely with industrial chemicals and materials

Modification History

Release 1. Supersedes and is equivalent to MEM13003B Work safely with industrial chemicals and materials

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria on at least two (2) occasions and include:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- selecting appropriate PPE based on data obtained in relevant safety data sheets (DS)
- observing safe working practices including undertaking a risk assessment
- following approved safety procedures and instructions in demonstrating responses to real or simulated emergencies
- performing proper manual handling techniques when shifting and moving industrial chemicals and materials
- ensuring all decanted chemicals are stored in storage containers that are suitable for chemical exposure and are properly labelled and/or placarded
- updating chemical manifests following SOPs
- complying with appropriate state or territory legislative requirements at all times.

Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include knowledge of:

- safe work practices and procedures and use of personal protective equipment (PPE)
- dangerous goods classification and labelling/placarding
- testing and maintenance of PPE
- inherent hazardous properties of the chemicals to be used
- interpretation of the relevant safety data sheets (SDS)
- basic fire-fighting procedures
- site-specific emergency plan procedures
- chemical spill confinement procedures
- dangerous occurrence (near miss) reporting procedures
- hierarchy of controls.

Assessment Conditions

- Assessors must:
 - have vocational competency in working safely with industrial chemicals and materials at least to the level being assessed with relevant industry knowledge and experience
 - satisfy the assessor requirements in the *Standards for Registered Training Organisations 2015* or its replacement and comply with the *National Vocational Education and Training Regulator Act 2011*, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires
- Where possible assessment must occur in operational workplace situations. Where this is not possible or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Links

Companion Volume implementation guides are found in VETNet -
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MEM13015 Work safely and effectively in manufacturing and engineering

Modification History

Release 1. New unit. Supersedes and not equivalent to MEM13014A Apply principles of occupational health and safety in the work environment, MEM14004A Plan to undertake a routine task, MEM15002A Apply quality systems, MEM15024A Apply quality procedures, MEM16007A Work with others in a manufacturing, engineering or related environment.

Application

This unit of competency defines the skills and knowledge required to work effectively in manufacturing and engineering work situations, including planning routine work and participating in and following work health and safety (WHS) procedures. The unit applies to working either individually or in a team situation and includes contributing to work-related group activities in a manufacturing or engineering workplace.

This unit covers WHS skills associated with carrying out routine operational activities safely and in compliance with legislative and regulatory requirements.

The unit covers the skills associated with participation in quality systems, communication and cooperation with others. The unit applies to workplaces with informal or formal quality management and improvement systems.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Band: A

Unit Weight: 2

Pre-requisite Unit

Nil.

Competency Field

Work health and safety

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

- | | | | |
|---|--|-----|--|
| 1 | Determine job requirements | 1.1 | Identify goals, objectives and task requirements and clarify with appropriate persons, where required |
| | | 1.2 | Prioritise task requirements |
| 2 | Review and modify plan | 2.1 | Adjust timelines, priorities and other planning components to respond to contingencies, as necessary |
| | | 2.2 | Re-examine results of work activity against the plan and identify possible improvements to future performance of work tasks |
| 3 | Work effectively with others in the workplace | 3.1 | Identify own role and responsibilities and relationship to other employees, including employees performing related/interdependent activities |
| | | 3.2 | Identify supervisors and other sources of advice and assistance for own work |
| | | 3.3 | Apply effective interpersonal skills to interact with others and contribute to activities and objectives |
| | | 3.4 | Review and modify own work progress to complement the work of others |
| | | 3.5 | Report own work progress to supervisors and where required to fellow employees using standard operating procedures (SOPs) |
| 4 | Follow safe work practices | 4.1 | Check for and identify hazards in the work area before and during work |
| | | 4.2 | Follow procedures for avoiding or controlling hazards already identified in instructions, signage or other workplace communication |
| | | 4.3 | Identify and report risks and hazards not covered by procedures |

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	<p>4.4 Select, use and maintain relevant personal protective equipment (PPE) by procedures, as required</p> <p>4.5 Recognise emergency situations and take appropriate initial emergency action</p> <p>4.6 Follow procedures for responding to emergencies</p> <p>4.7 Report incidents, injuries and other WHS non-conformances according to procedures</p>
5 Work within a quality system	<p>5.1 Follow instructions and procedures and perform duties in accordance with standard operating procedures or quality system requirements</p> <p>5.2 Ensure conformance of product and process to specifications</p> <p>5.3 Report defects and non-conformance to specifications according to procedures</p> <p>5.4 Participate in process improvement procedures, where required</p>
6 Participate in workplace health and safety procedures	<p>6.1 Identify workplace health and safety policies and procedures relevant to own work and work area</p> <p>6.2 Identify relevant WHS managers and representatives for own work area</p> <p>6.3 Provide input to minimise hazards in work area in line with organisation WHS procedures and participative arrangements</p>

Foundation Skills

This section describes those required skills (reading, writing, oral communication and numeracy) that are essential to workplace performance in this unit of competency.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Quality systems include one (1) or more of the following

- quality planning
- quality assurance
- quality control
- quality improvement procedures and processes

Task requirements include one (1) or more of the following:

- timeframe
- quality requirements
- outcome and performance requirements
- job history
- checks
- reporting requirements
- tools and equipment
- materials and parts
- supporting documents

Specifications include one (1) or more of the following:

- task lists
- instructions
- manufacturer manuals
- diagrams and schematics
- sketches
- parts lists
- SOPs

Planning includes one (1) or more of the following:

- preparing a plan to complete the task
- organising task into manageable steps including appropriate order and timing
- monitoring the progress of processes related to own responsibilities
- applying relevant WHS instructions
- collecting, sorting, recording results of work
- seeking advice and guidance on setting priorities and timeframes

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

- seeking feedback from supervisor, trainer or mentor

Unit Mapping Information

Release 1. New unit. Supersedes and not equivalent to MEM13014A Apply principles of occupational health and safety in the work environment, MEM14004A Plan to undertake a routine task, MEM15002A Apply quality systems, MEM15024A Apply quality procedures, MEM16007A Work with others in a manufacturing, engineering or related environment.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

Assessment Requirements for MEM13015 Work safely and effectively in manufacturing and engineering

Modification History

Release 1. New unit. Supersedes and not equivalent to MEM13014A Apply principles of occupational health and safety in the work environment, MEM14004A Plan to undertake a routine task, MEM15002A Apply quality systems, MEM15024A Apply quality procedures, MEM16007A Work with others in a manufacturing, engineering or related environment.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria on at least two (2) occasions and include:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- identifying and avoiding or controlling hazards
- reporting hazards, incidents, injuries and other work health and safety (WHS) non-conformances following SOPs
- recognising and responding to emergencies following SOPs
- identifying and obtaining, instructions and information on job requirements, including one or more of the following:
 - verbal or written job instructions
 - specifications
 - SOPs
 - charts
 - lists
- identifying and responding to contingencies, including:
 - equipment breakdowns
 - non-conforming components
 - safety hazards
- recording information into proforma workplace documents, including:
 - production tally forms
 - quality control forms
 - safety incident forms
- performing assigned tasks and checking outcome of own work for conformance to specifications
- identifying own responsibilities within the workplace quality system
- giving and receiving feedback on own and group work
- seeking assistance from supervisors and mentors.

Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- safe work practices and procedures and use and application of personal protective equipment
- basic quality system terminology and concept, including:
 - quality assurance
 - quality control
 - quality improvement
- procedures to be followed in performing own work
- objectives, requirements and specifications to which the individual's work is to comply
- costs and consequences of poor quality
- effective interpersonal skills:
 - effective listening
 - basic speaking skills
 - use of workplace terminology and jargon
 - giving and receiving feedback
 - checking and clarifying task-related information
 - verbal, visual and written instructions
 - appropriate modes and methods of communication
- barriers to effective communication
- sources of technical expertise/assistance
- hazards and control measures associated with workplace activities.

Assessment Conditions

- Assessors must:
 - have vocational competency in working safely and effectively in manufacturing and engineering at least to the level being assessed with relevant industry knowledge and experience
 - satisfy the assessor requirements in the *Standards for Registered Training Organisations 2015* or its replacement and comply with the *National Vocational Education and Training Regulator Act 2011*, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires
- Where possible assessment must occur in operational workplace situations. Where this is not possible or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills

- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

MEM14006 Plan work activities

Modification History

Release 1. Supersedes and is equivalent to MEM14005A Plan a complete activity

Application

This unit of competency covers the skills and knowledge required to plan familiar work activities, whilst following established procedures and work health and safety (WHS) policies and procedures of the organisation.

Planning is undertaken by the individual performing the work. Individual plan components may require modification and prioritising to meet job requirements or to respond to unforeseen circumstances.

Where computations are required to be performed unit MEM12024 Perform computations should also be selected.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Band: A

Unit Weight: 4

Pre-requisite Unit

MEM13015 Work safely and effectively in manufacturing and engineering

MEM16006 Organise and communicate information

Competency Field

Planning

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

- | | |
|-------------------------------------|--|
| 1 Determine job requirements | <ul style="list-style-type: none">1.1 Follow standard operating procedures (SOPs)1.2 Identify outcomes and objectives and clarify with appropriate persons1.3 Obtain and clarify relevant specifications and procedures1.4 Identify and prioritise individual components of the plan1.5 Select and use planning tools and techniques according to the requirements of the work1.6 Check the plan for accuracy and relevancy to job requirements |
| 2 Modify plan components | <ul style="list-style-type: none">2.1 Modify the plan components, as necessary, to respond to unforeseen developments2.2 Review the outcome of the work activity and, where necessary, identify future improvements to the plan |
| 3 Follow WHS requirements | <ul style="list-style-type: none">3.1 Comply with WHS requirements at all times3.2 Identify WHS hazards and risks and implement appropriate risk control measures in accordance with SOPs3.3 Select, use and maintain appropriate personal protective equipment (PPE) in accordance with SOPs3.4 Raise WHS issues with designated personnel in accordance with SOPs3.5 Report WHS related actions and incidents according to SOPs |

Foundation Skills

This section describes those required skills (reading, writing, oral communication and numeracy) that are essential to workplace performance in this unit of competency.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Plan components include one (1) or more of the following:

- resources
- tools and equipment
- materials and parts
- overall timeframe
- job history
- quality requirements
- criteria for acceptable completion
- checks and tests
- outcome and performance requirements
- WHS requirements

Specifications include one (1) or more of the following:

- task lists
- instructions
- manufacturer manuals
- diagrams and schematics
- technical drawings and sketches
- parts lists
- computer records

Planning techniques and tools include one (1) or more of the following:

- scheduling
- time management
- brainstorming
- setting goals and defined outcomes
- prioritising
- review and evaluation strategies

Risk control measures

- eliminate the hazard

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

- include one (1) or more of the following:**
- substitute the hazard with a safer alternative
 - isolate the hazard
 - use engineering controls to reduce the risk
 - use training to reduce the risk
 - use PPE

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM14005A Plan a complete activity

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

Assessment Requirements for MEM14006 Plan work activities

Modification History

Release 1. Supersedes and is equivalent to MEM14005A Plan a complete activity

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria on at least two (2) occasions and include:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- planning a work activity using appropriate planning tools and techniques whilst following established procedures, including work health and safety (WHS) requirements
- checking the plan to ensure accuracy and conformance and modifying the plan components, as necessary, to overcome any unforeseen difficulties or developments
- identifying hazards and implementing appropriate risk control measures and procedures
- selecting, using and maintaining relevant personal protective equipment (PPE)
- evaluating the effectiveness of risk controls measures
- providing proforma WHS reports in accordance with SOPs, as required.

Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include knowledge of:

- safe work practices and procedures and use of PPE
- relevant specifications
- sources of advice relating to the objectives, requirements and specifications
- timeframe for activity completion
- quality requirements of the product or service
- techniques and reasons for prioritising of each step in a plan
- modifications that can be made to the plan to respond to unforeseen developments
- risk control measures
- reporting requirements for accidents, incidents and other non-conformances with WHS procedures.

Assessment Conditions

- Assessors must:
 - have vocational competency in planning work activities in a manufacturing and engineering environment at least to the level being assessed with relevant industry knowledge and experience

- satisfy the assessor requirements in the *Standards for Registered Training Organisations 2015* or its replacement and comply with the *National Vocational Education and Training Regulator Act 2011*, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires
- Where possible assessment must occur in operational workplace situations. Where this is not possible or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

MEM16006 Organise and communicate information

Modification History

Release 1. Supersedes and is equivalent to MEM16006A Organise and communicate information

Application

This unit of competency covers the skills and knowledge required to access, organise and communicate information related to production, maintenance or associated processes or tasks that apply in manufacturing, engineering or related environments.

For accessing and recording of data requiring system knowledge and judgement, Unit MEM16008 Interact with computing technology should be selected.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Band: A

Unit Weight: 2

Pre-requisite Unit

MEM13015 Work safely and effectively in manufacturing and engineering

Competency Field

Communication

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

- | | | | |
|---|---------------------------|-----|---|
| 1 | Access information | 1.1 | Determine information requirements of tasks and access relevant information from a range of sources |
| | | 1.2 | Recognise and use workplace terminology correctly |

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
2 Organise and analyse information	2.1 Interpret information and organise in accordance with work requirements
	2.2 Determine relevance and implications for immediate work requirements
3 Communicate organised information using established workplace methods	3.1 Identify purpose of communication and appropriate communication method
	3.2 Communicate information using established workplace methods

Foundation Skills

This section describes those required skills (reading, writing, oral communication and numeracy) that are essential to workplace performance in this unit of competency.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Range of sources include using one (1) or more of the following:	• job instructions
	• specifications
	• standard operating procedures (SOPs)
	• charts
	• lists
	• documents
	• computer data
	• drawings
	• sketches
	• tables

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

- technical manuals and/or charts
- other applicable reference material

Determining relevance of information includes one (1) or more of the following:

- checking relevance of information to own work
- selecting task relevant information from a larger document or from a diagram
- preparing an opinion based on analysis of simple facts
- expressing an opinion on the cause of faults

Workplace terminology refers to one (1) or more of the following:

- equipment
- processes
- workplace areas
- staff
- procedures

Established workplace methods include using one (1) or more of the following:

- proforma reports
- data entry
- verbal
- drawings

Purpose of communication includes one (1) or more of the following:

- simple incident/non-conformance report
- maintenance request
- production records
- material usage records
- work records
- other standard workplace records

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM16006A Organise and communicate information

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

Assessment Requirements for MEM16006 Organise and communicate information

Modification History

Release 1. Supersedes and is equivalent to MEM16006A Organise and communicate information

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria on at least two (2) occasions and include:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- accessing and recording relevant information from a range of sources
- recognising and using workplace appropriate terminology
- reading, interpreting and following information in workplace documentation
- checking and clarifying information
- organising, categorising and sequencing information
- communicating using appropriate methods and procedures for a variety of situations.

Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include knowledge of:

- safe work practices and procedures
- types of information relevant to the workplace and required tasks
- terminology used in the workplace relevant to own work
- available sources of information
- information analysis techniques appropriate to tasks and position
- methods of categorising and organising information including correct sequencing of information
- methods of recording and communicating information.

Assessment Conditions

- Assessors must:
 - have vocational competency in organising and communicating information at least to the level being assessed with relevant industry knowledge and experience

- satisfy the assessor requirements in the *Standards for Registered Training Organisations 2015* or its replacement and comply with the *National Vocational Education and Training Regulator Act 2011*, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires
- Where possible assessment must occur in operational workplace situations. Where this is not possible or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

MEM18001 Use hand tools

Modification History

Release 1. Supersedes and is equivalent to MEM18001C Use hand tools

Application

This unit of competency defines the skills and knowledge required to use a range of hand tools for a variety of general engineering applications.

This unit should not be selected if the hand tool is dedicated to a single operation or machine or when a machine-specific/customised tool is used.

Where the interpretation of technical drawings is required unit MEM09002 Interpret technical drawing should also be selected.

Where the selection and use of engineering measuring equipment is required unit MEM12023 Perform engineering measurements should also be selected.

Where the selection and use of power tools/hand held operations is required unit MEM18002 Use power tools/hand held operations should also be selected.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Band: A

Unit Weight: 2

Pre-requisite Unit

MEM11011	Undertake manual handling
MEM13015	Work safely and effectively in manufacturing and engineering
MEM16006	Organise and communicate information

Competency Field

Maintenance and diagnostics

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1	Determine job requirements	1.1	Follow standard operating procedures (SOPs)
		1.2	Comply with work health and safety (WHS) requirements at all times
		1.3	Use appropriate personal protective equipment (PPE) in accordance with SOPs
		1.4	Identify job requirements from specifications, drawings, job sheets or work instructions
2	Use hand tools for general engineering applications	2.1	Select hand tools appropriate to the task requirements
		2.2	Use hand tools to produce outcomes that meet job specifications
		2.3	Identify unsafe or faulty tools and mark for repair according to designated procedures before, during and after use
		2.4	Undertake routine maintenance of tools using engineering principles, tools, equipment and procedures
		2.5	Store hand tools safely in appropriate location according to procedures and manufacturers' recommendations

Foundation Skills

This section describes those required skills (reading, writing, oral communication and numeracy) that are essential to workplace performance in this unit of competency.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Hand tools include one (1) or more of the following:

- hacksaws
- hammers
- punches
- screwdrivers
- sockets
- wrenches
- scrapers
- chisels
- gouges
- wood planes
- files of all cross-sectional shapes and types
- hand held taps and dies

Applications include one (1) or more of the following:

- adjusting
- dismantling
- assembling and finishing of items or components
- finishing, cutting, scraping of metallic and non-metallic material to size and shape
- tapping/retapping and threading/rethreading new/damaged threads

Drawings include one (1) or more of the following:

- drawings and sketches not covered by AS 1100 Technical drawing or AS 1102 Graphical symbols for electrotechnical documentation, and their equivalents
- work specifications that include graphic representations that do not require interpretation

Job specifications include one (1) or more of the following:

- finish
- tension
- size
- shape

Routine maintenance includes one (1) or more of the following:

- cleaning
- lubricating
- tightening
- simple tool repairs
- adjustments

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM18001C Use hand tools

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

Assessment Requirements for MEM18001 Use hand tools

Modification History

Release 1. Supersedes and is equivalent to MEM18001C Use hand tools

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria on at least two (2) occasions and include:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- selecting and using hand tools to produce the desired outcome to job specifications
- following designated procedures for dealing with unsafe or faulty tools
- undertaking routine maintenance and cleaning of hand tools, including storage.

Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include knowledge of:

- safe work practices and procedures and use of personal protective equipment (PPE)
- features and applications of different hand tools used in a general engineering context, including hacksaws, hammers, punches, screwdrivers, sockets, wrenches, scrapers, chisels, gouges, wood planes and files of all cross-sectional shapes and sizes
- common faults and/or defects in hand tools
- procedures for marking unsafe or faulty tools for repair
- routine maintenance requirements for a range of hand tools, including lubricating, tightening, simple tool repairs and adjustments using engineering principles and relevant equipment
- storage location and procedures for a range of hand tools.

Assessment Conditions

- Assessors must:
 - have vocational competency in using hand tools at least to the level being assessed with relevant industry knowledge and experience
 - satisfy the assessor requirements in the *Standards for Registered Training Organisations 2015* or its replacement and comply with the *National Vocational Education and Training Regulator Act 2011*, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires

- Where possible assessment must occur in operational workplace situations. Where this is not possible or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

MEM18002 Use power tools/hand held operations

Modification History

Release 1. Supersedes and is equivalent to MEM18002B Use power tools/hand held operations

Application

This unit of competency defines the skills and knowledge required to use a range of hand held power tools and fixed power tools for hand held operations used in a variety of general engineering applications.

This unit should not be selected if the power tools used are dedicated to an operation or machine, e.g. nut-runner, air drill and power driver.

Where the interpretation of technical drawings is required unit MEM09002 Interpret technical drawing should also be selected.

Where the selection and use of engineering measuring equipment is required unit MEM12023 Perform engineering measurements should also be selected.

Where the selection and use hand tools is required unit MEM18001 Use hand tools should also be selected.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Band: A

Unit Weight: 2

Pre-requisite Unit

MEM11011 Undertake manual handling

MEM13015 Work safely and effectively in manufacturing and engineering

MEM16006 Organise and communicate information

Competency Field

Maintenance and diagnostics

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1	Determine job requirements	1.1	Follow standard operating procedures (SOPs)
		1.2	Comply with work health and safety (WHS) requirements at all times
		1.3	Use appropriate personal protective equipment (PPE) in accordance with SOPs
		1.4	Identify job requirements from specifications, drawings, job sheets or work instructions
2	Use power tools for general engineering applications	2.1	Select power tools appropriate to the task requirements
		2.2	Use power tools for a determined sequence of operations to produce desired outcomes to job specifications
		2.3	Identify unsafe or faulty tools and mark for repair before, during and after use according to SOPs
		2.4	Undertake operational maintenance of tools according to principles, techniques and SOPs
		2.5	Store power tools safely in appropriate location according to manufacturers' recommendations and SOPs

Foundation Skills

This section describes those required skills (reading, writing, oral communication and numeracy) that are essential to workplace performance in this unit of competency.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

- Power tools include one (1) or more of the following:**
- electric or pneumatic/hydraulic drills
 - grinders
 - jigsaws
 - nibblers
 - cutting saws
 - sanders
 - planers
 - routers
 - pedestal drills
 - pedestal grinders
- Power tool operations include one (1) or more of the following:**
- clamping
 - alignments
 - adjustments
- Applications include one (1) or more of the following:**
- loosening and fastening items or components
 - shaping, finishing, cutting, grinding of metallic and non-metallic materials and/or tool bits to size and shape
- Drawings include one (1) or more of the following:**
- drawings and sketches not covered by AS 1100 Technical drawing or AS 1102 Graphical symbols for electrotechnical documentation, and their equivalents
 - work specifications that include graphic representations that do not require interpretation
- Clamping includes one (1) or more of the following:**
- multigrips
 - vices
 - jigs and fixtures
 - clamps
- Job specifications include one (1) or more of the following:**
- finish
 - size
 - shape
- Operational maintenance includes one (1) or more of the following:**
- cleaning
 - lubricating
 - tightening

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM18002B Use power tools/hand held operations

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

Assessment Requirements for MEM18002 Use power tools/hand held operations

Modification History

Release 1. Supersedes and is equivalent to MEM18002B Use power tools/hand held operations

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria on at least two (2) occasions and include:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- selecting and using a range of hand held and fixed power tools for a variety of general engineering applications
- following designated procedures for dealing with unsafe or faulty power tools
- undertaking routine maintenance and cleaning of power tools, including storage.

Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include knowledge of:

- safe work practices and procedures and use of personal protective equipment (PPE)
- features and application of different power tools
- clamping/securing methods
- adjustments/alignments to a range of power tools
- common faults and/or defects in power tools
- procedures for marking unsafe or faulty power tools for repair
- routine maintenance requirements and cleaning of a range of power tools
- storage location and procedures of a range of power tools.

Assessment Conditions

- Assessors must:
 - have vocational competency in using power tools/hand held operations at least to the level being assessed with relevant industry knowledge and experience
 - satisfy the assessor requirements in the *Standards for Registered Training Organisations 2015* or its replacement and comply with the *National Vocational Education and Training Regulator Act 2011*, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires

- Where possible assessment must occur in operational workplace situations. Where this is not possible or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

MEM18003 Use tools for precision work

Modification History

Release 1. Supersedes and is equivalent to MEM18003C Use tools for precision work

Application

This unit of competency defines the skills and knowledge required to use tools to manually produce work to precise dimensions and/or finishes.

It covers performing precision tasks on a range of metallic and non-metallic materials using a variety of tools, instruments and power equipment.

Where the interpretation of technical drawings is required unit MEM09002 Interpret technical drawing should also be selected.

Where precision measurement is required unit MEM12003 Perform precision mechanical measurement should also be selected.

Where precision marking out is required unit MEM12006 Mark off/out (general engineering) should also be selected.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Band: A

Unit Weight: 4

Pre-requisite Unit

MEM11011 Undertake manual handling

MEM12023 Perform engineering measurements

MEM13015 Work safely and effectively in manufacturing and engineering

MEM16006 Organise and communicate information

MEM18001 Use hand tools

MEM18002 Use power tools/hand held operations

Competency Field

Maintenance and diagnostics

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1	Determine job requirements	1.1 Follow standard operating procedures (SOPs) 1.2 Comply with work health and safety (WHS) requirements at all times 1.3 Use appropriate personal protective equipment (PPE) in accordance with SOPs 1.4 Identify job requirements from specifications, drawings, job sheets or work instructions
2	Prepare tools and tooling to produce precision outcome	2.1 Select processes/techniques appropriate to the precision work to be undertaken, material and specifications 2.2 Select tools, accessories and consumables appropriate to task, specifications and material 2.3 Prepare tools/tooling and adjust, as required
3	Use tools to produce work to precise specifications	3.1 Prepare the work piece and secure using appropriate method for selected operation 3.2 Use tools to produce specified outcome to the required accuracy in accordance with SOPs 3.3 Inspect tools and equipment for safe and proper working order before, during and after use 3.4 Identify unserviceable tools, repair where appropriate, or mark for repair or disposal, according to prescribed procedure

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 3.5 Undertake inspection and maintenance of tools and equipment according to standard workplace procedures, principles and techniques
- 3.6 Store and maintain tools to ensure serviceability

Foundation Skills

This section describes those required skills (reading, writing, oral communication and numeracy) that are essential to workplace performance in this unit of competency.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

- Techniques include one (1) or more of the following:**
- cutting out
 - drilling
 - fitting
 - filing
 - reaming
 - lapping
 - broaching
 - burnishing
 - scraping
 - polishing
 - hand held grinding
 - chiselling

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Precision work includes one (1) or more of the following:

- scraping machine beds to precise tolerances
- broaching a keyway
- hand reaming the bore of a spigot or bush to a positive transition fit with shaft
- core drilling (finishing) a blind hole to receive a mating pin
- lapping a mechanical seal to fine finish
- filing complex angles and mating edges
- precision grinding using a flexible drive shaft attachment

Precision outcomes include one (1) or more of the following:

- specified tolerances
- allowances
- fits
- finishes
- alignments

Tools or equipment required to achieve precision outcomes include one (1) or more of the following:

- reamers
- files
- chisels
- polishing buffs
- lapping plate
- broaches
- flat, half round and bore scrapers

Tool adjustment includes one (1) or more of the following:

- tool shape
- rake angle
- clearance angles

Inspection and preventative maintenance include one (1) or more of the following:

- visual checking of leads and connections
- sharpening of cutting equipment
- repair of associated tools

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM18003C Use tools for precision work

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

Assessment Requirements for MEM18003 Use tools for precision work

Modification History

Release 1. Supersedes and is equivalent to MEM18003C Use tools for precision work

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria on at least two (2) occasions and include:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- preparing tools for precision outcomes, including selecting processes and engineering techniques, methods and procedures appropriate to the task
- determining and making tool adjustments to produce required outcome, where applicable
- selecting and using precision tools and equipment to produce the desired outcome to meet job specifications
- following designated procedures for dealing with unsafe or faulty tools
- undertaking routine repair/operational maintenance of tools and equipment and storing in accordance with procedures.

Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include knowledge of:

- safe work practices and procedures and use of personal protective equipment (PPE)
- work to be undertaken and specifications to be achieved
- appropriate tools, processes and equipment required to carry out the work to the required specifications and reasons and procedures for using the selected tools
- engineering principles to be applied during the use of the tools
- manufacturers' specifications of the tools and equipment selected
- procedures for checking tools and equipment for correct and safe operation
- common faults and/or defects in tools and equipment used/selected
- procedures for marking unsafe or faulty tools and equipment for repair
- repairs/operational maintenance that can be made to the tools and equipment used/selected
- procedures for repairing/maintaining the tools and equipment used/selected
- procedures for checking/storing tools and equipment used/selected prior to storage and storage location.

Assessment Conditions

- Assessors must:
 - have vocational competency in using tools for precision work at least to the level being assessed with relevant industry knowledge and experience
 - satisfy the assessor requirements in the *Standards for Registered Training Organisations 2015* or its replacement and comply with the *National Vocational Education and Training Regulator Act 2011*, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires
- Where possible assessment must occur in operational workplace situations. Where this is not possible or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

MEM18006 Perform precision fitting of engineering components

Modification History

Release 2. Quantum of hours of workplace practice removed. Supersedes and is equivalent to MEM18006 Perform precision fitting of engineering components (Release 1).

Release 1. Supersedes and is equivalent to MEM18006C Repair and fit engineering components.

Application

This unit of competency has been developed for Engineering Tradesperson - Mechanical apprenticeship training and the recognition of trade-level skills in precision fitting and mechanical repair.

It defines the trade-level fitting skills and knowledge associated with manufacturing of new parts/components and fitting mechanical engineering components into assemblies or sub-assemblies to specifications and specified tolerances.

The skills and knowledge described by this unit are applied in occupational and work situations associated with fitting, mechanical trade and maintenance work.

Where the knowledge and skills associated with machining or welding are required, the appropriate units should also be selected.

Where additional or higher marking out skills are required unit MEM12006 Mark off/out (general engineering) should also be selected.

Where the knowledge and skills associated with the installation, removal, repair or replacement of mechanical seals is required unit MEM18012 Perform installation and removal of mechanical seals should also be selected.

Where the knowledge and skills associated with high pressure fluid power seals is required unit MEM18020 Maintain hydraulic system components should also be selected.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Band: A

Unit Weight: 6

Pre-requisite Unit

MEM09002	Interpret technical drawing
MEM11011	Undertake manual handling
MEM12023	Perform engineering measurements

MEM12024	Perform computations
MEM13015	Work safely and effectively in manufacturing and engineering
MEM14006	Plan work activities
MEM16006	Organise and communicate information
MEM18001	Use hand tools
MEM18002	Use power tools/hand held operations
MEM18003	Use tools for precision work
MEM18055	Dismantle, replace and assemble engineering components

Competency Field

Maintenance and diagnostics

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1	Determine job requirements	1.1	Follow standard operating procedures (SOPs)
		1.2	Comply with work, health and safety (WHS) requirements at all times
		1.3	Use appropriate personal protective equipment (PPE) in accordance with SOPs
		1.4	Identify job requirements from specifications, drawings, job sheets or work instructions
2	Plan and prepare to undertake work	2.1	Assess operation and condition of components against specifications
		2.2	Identify and isolate any faulty or worn components
		2.3	Mark component parts for identification, where required

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	<p>2.4 Determine the cause/s of faults using appropriate engineering principles, techniques, procedures, tools and equipment</p> <p>2.5 Determine repair/replacement strategy</p>
3 Manufacture and/or repair and/or replace faulty components	<p>3.1 Obtain parts, component and or materials from appropriate sources</p> <p>3.2 Source, repair or produce components to meet specifications</p> <p>3.3 Inspect components for compliance with specifications</p>
4 Fit engineering components into assemblies or sub-assemblies	<p>4.1 Determine the correct fitting requirements and sequence of assembly</p> <p>4.2 Prepare and assemble component parts using fastening equipment and methods which ensures conformance to specifications, operational performance, quality and safety</p> <p>4.3 Determine lubrication requirements by appropriate means and lubricate, where applicable</p> <p>4.4 Perform final adjustments on component assembly to meet operational specifications</p>
5 Check operation of repaired components/unit	<p>5.1 Check all components/unit under operational conditions for compliance to specifications</p> <p>5.2 Approve any out-of-specification modification/alterations through an appropriate authority and record</p> <p>5.3 Perform final modifications/alterations on assembly to meet operational specifications</p> <p>5.4 Commission the final assembly and return to service</p>

Foundation Skills

This section describes those required skills (reading, writing, oral communication and numeracy) that are essential to workplace performance in this unit of competency.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Engineering principles and fitting techniques include one (1) or more of the following:

- limits of tolerance
- allowances and clearances
- effects of wear, stress and temperature
- types of fits:
 - clearance
 - transition
 - interference
- press fitting methods
- force fits
- shrink and freeze (expansion) fits
- keyed fits
- taper fits
- lateral and radial forces
- datum and centrelines
- broaching
- drilling
- scraping
- filing
- reaming
- tapping
- threading
- simple gland top-ups in non-critical applications
- routine gland maintenance
- jointing
- gaskets

Unit Mapping Information

Release 2. Supersedes and is equivalent to MEM18006 Perform precision fitting of engineering components (Release 1).

Release 1. Supersedes and is equivalent to MEM18006C Repair and fit engineering components.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

Assessment Requirements for MEM18006 Perform precision fitting of engineering components

Modification History

Release 2. Quantum of hours of workplace practice removed. Supersedes and is equivalent to MEM18006 Perform precision fitting of engineering components (Release 1).

Release 1. Supersedes and is equivalent to MEM18006C Repair and fit engineering components.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria on at least two (2) occasions and include:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- assessing engineering components visually and dimensionally with appropriate testing and measuring equipment techniques for compliance to specifications
- repairing or replacing faulty components using appropriate tools, equipment and techniques
- assembling components using appropriate fitting techniques and principles
- recording approved modifications/alterations
- inspecting final assembly to check compliance to specifications
- returning the final assembly to service in accordance with SOPs.

Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include knowledge of:

- safe work practices and procedures and use of personal protective equipment (PPE)
- tools and equipment used to dismantle, repair, assemble and fit engineering components
- consequences of having non-compliant components
- types of modifications/adjustments to components being repaired/fitted
- repair methods
- sources of replacement parts
- techniques for the production of engineering components
- assembly and fitting techniques
- machine backlash/recoil
- measuring equipment
- engineering components - shafts, single and multi-throw crankshafts, cams and journals, bearings and bearing surfaces, and keys

- squareness, roundness, concentricity, flatness, straightness, surface finish and angular correctness
- purpose, selection criteria and use of gland packing, jointing or gasket materials
- types and application of lubricants
- approval processes for documenting out-of-specification modifications
- commissioning and return to service procedures.

Assessment Conditions

- Assessors must:
 - have vocational competency in performing precision fitting of engineering components at least to the level being assessed with relevant industry knowledge and experience
 - satisfy the assessor requirements in the *Standards for Registered Training Organisations 2015* or its replacement and comply with the *National Vocational Education and Training Regulator Act 2011*, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires.
- Assessment must occur in a functioning workplace. Where assessment in the workplace would be unsafe, impractical or threatens the environment, assessment must occur in a sufficiently rigorous simulated environment that reflects the circumstances that would be experienced in a functioning workplace. Assessment must cover all aspects of workplace performance, including task skills, task management skills, contingency management skills and job role environment skills.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

MEM18018 Maintain pneumatic system components

Modification History

Release 2. Quantum of hours of workplace practice removed. Supersedes and is equivalent to MEM18018 Maintain pneumatic system components (Release 1).

Release 1. Supersedes and is equivalent to MEM18018C Maintain pneumatic system components.

Application

This unit of competency defines the skills and knowledge required to check pneumatic system components, identify and repair or replace faulty components.

Pneumatic system components are identified and inspected and assessed using fluid power principles to predetermined specifications interpreted from data sheets and circuits diagrams.

Where straightforward removal/replacement of components from a pneumatic system is required unit MEM18055 Dismantle, replace and assemble engineering components and unit MEM18071 Connect and disconnect fluid conveying system components, should be selected as appropriate.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Band: A

Unit Weight: 4

Pre-requisite Unit

MEM09002	Interpret technical drawing
MEM11011	Undertake manual handling
MEM12023	Perform engineering measurements
MEM12024	Perform computations
MEM13015	Work safely and effectively in manufacturing and engineering
MEM14006	Plan work activities

MEM16006	Organise and communicate information
MEM18001	Use hand tools
MEM18002	Use power tools/hand held operations
MEM18003	Use tools for precision work
MEM18006	Perform precision fitting of engineering components
MEM18055	Dismantle, replace and assemble engineering components

Competency Field

Maintenance and diagnostics

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1	Determine job requirements	1.1	Follow standard operating procedures (SOPs)
		1.2	Comply with work health and safety (WHS) requirements at all times
		1.3	Use appropriate personal protective equipment (PPE) in accordance with SOPs
		1.4	Identify job requirements from specifications, drawings, job sheets or work instructions
2	Check pneumatic system components	2.1	Identify the characteristics and operational function of each system component
		2.2	Inspect and test the operational function of each component
		2.3	Assess correct operation of each component against specifications
3	Identify, repair	3.1	Localise faulty system components and confirm

Elements describe the essential outcomes.

or replace faulty pneumatic system components

Performance criteria describe the performance needed to demonstrate achievement of the element.

- malfunction by inspection and testing using fluid power principles, procedures and safety requirements
- 3.2 Dismantle faulty system components and repair to manufacturers'/site specifications
 - 3.3 Select replacement parts from appropriate sources
 - 3.4 Reassemble system components and verify for correct operation and test against specifications
 - 3.5 Confirm correct operation of the pneumatic system according to SOPs
 - 3.6 Adopt appropriate follow-up procedures
 - 3.7 Complete service reports

Foundation Skills

This section describes those required skills (reading, writing, oral communication and numeracy) that are essential to workplace performance in this unit of competency.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Pneumatic system components include one (1) or more of the following:

- static and dynamic seals
- linear and semi-rotary actuators
- pressure control valves
- directional control valves
- flow control valves
- normally open and closed timers
- counters
- pneumatic motors

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

- fluid conductors
- other associated equipment

Unit Mapping Information

Release 2. Supersedes and is equivalent to MEM18018 Maintain pneumatic system components (Release 1).

Release 1. Supersedes and is equivalent to MEM18018C Maintain pneumatic system components.

Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

Assessment Requirements for MEM18018 Maintain pneumatic system components

Modification History

Release 2. Quantum of hours of workplace practice removed. Supersedes and is equivalent to MEM18018 Maintain pneumatic system components (Release 1).

Release 1. Supersedes and is equivalent to MEM18018C Maintain pneumatic system components.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria on at least two (2) occasions and include:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- identifying and interpreting specifications, charts, lists, drawings and other applicable reference documents to maintain pneumatic system components
- inspecting and testing pneumatic system components to predetermined specifications using fluid power principles
- checking component parts visually and dimensionally for compliance to specification and, where appropriate, marking faulty parts for repair, replacement or adjustment
- dismantling and repairing faulty system components, including selecting replacement parts from manufacturers'/suppliers' catalogues to site or manufacturers' specifications
- assembling and testing pneumatic components for correct operation and compliance to specifications
- checking the operation of the pneumatic system for compliance to specifications
- completing service reports in accordance with SOPs.

Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include knowledge of:

- safe work practices and procedures and use of personal protective equipment (PPE)
- full range of pneumatic system components and characteristics/operational function of each component
- procedures and equipment for inspecting and testing pneumatic system components
- specifications of each pneumatic system component
- faulty system components and causes of faulty components
- individual components within the pneumatic system
- procedures for repairing pneumatic system components

- procedures for checking pneumatic system operation
- follow-up procedures with respect to repaired/replaced pneumatic system components
- reporting/recording procedures.

Assessment Conditions

- Assessors must:
 - have vocational competency in maintaining pneumatic system components at least to the level being assessed with relevant industry knowledge and experience
 - satisfy the assessor requirements in the *Standards for Registered Training Organisations 2015* or its replacement and comply with the *National Vocational Education and Training Regulator Act 2011*, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires
- Assessment must occur in a functioning workplace. Where assessment in the workplace would be unsafe, impractical or threatens the environment, assessment must occur in a sufficiently rigorous simulated environment that reflects the circumstances that would be experienced in a functioning workplace. Assessment must cover all aspects of workplace performance, including task skills, task management skills, contingency management skills and job role environment skills.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

MEM18019 Maintain pneumatic systems

Modification History

Release 2. Quantum of hours of workplace practice removed. Supersedes and is equivalent to MEM18019 Maintain pneumatic systems (Release 1).

Release 1. Supersedes and is equivalent to MEM18019B Maintain pneumatic systems.

Application

This unit of competency defines the skills and knowledge required to undertake preventive maintenance checks/adjustments on pneumatic systems, and fault-find, replace, repair or overhaul and recommission pneumatic systems.

It applies to pneumatic systems in industrial and mobile plant and equipment used in manufacturing, agricultural, forestry, mining and transport industries.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Band: B

Unit Weight: 4

Pre-requisite Unit

MEM09002	Interpret technical drawing
MEM11011	Undertake manual handling
MEM12023	Perform engineering measurements
MEM12024	Perform computations
MEM13015	Work safely and effectively in manufacturing and engineering
MEM14006	Plan work activities
MEM16006	Organise and communicate information
MEM18001	Use hand tools
MEM18002	Use power tools/hand held operations

MEM18003	Use tools for precision work
MEM18006	Perform precision fitting of engineering components
MEM18018	Maintain pneumatic system components
MEM18055	Dismantle, replace and assemble engineering components

Competency Field

Maintenance and diagnostics

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1	Determine job requirements	1.1	Follow standard operating procedures (SOPs)
		1.2	Comply with work health and safety (WHS) requirements at all times
		1.3	Use appropriate personal protective equipment (PPE) in accordance with SOPs
		1.4	Identify job requirements from specifications, drawings, job sheets or work instructions
2	Undertake preventative maintenance checks/adjustments on pneumatic systems	2.1	Identify system components, assemblies or sub-assemblies and prepare for inspection/preventative maintenance
		2.2	Carry out visual inspection and testing with appropriate test equipment according to fluid power principles, procedures and safety requirements
		2.3	Perform scheduled preventative maintenance tasks, including obvious repairs and adjustments, according to manufacturers' specification using fluid power techniques/practices
3	Undertake	3.1	Identify designated pneumatic system components and

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
fault-finding on pneumatic systems		<p>carry out visual inspection of the system for the collection of fault-finding data</p> <p>3.2 Consult system operator and collect additional data, where appropriate</p> <p>3.3 Check maintenance reports and preventative maintenance schedules and review for additional fault-finding data</p> <p>3.4 Undertake checks and tests</p> <p>3.5 Identify and verify faults and malfunctions</p> <p>3.6 Document or report faults and malfunctions to designated personnel using appropriate procedures</p>
4	Repair and/or overhaul pneumatic power system	<p>4.1 Isolate system or sub-assembly and discharge residue pressure safely in accordance with prescribed procedures or check for correct isolation</p> <p>4.2 Tag isolated system or sub-assembly according to SOPs</p> <p>4.3 Remove component or sub-assembly from system</p> <p>4.4 Dismantle components or sub-assemblies, examine and verify for replacement, repair or overhaul</p> <p>4.5 Select replacement items from appropriate sources</p> <p>4.6 Rectify faulty items</p> <p>4.7 Refit component or sub-assembly items to equipment and test for compliance against specifications</p>
5	Recommission pneumatic system	<p>5.1 Re-commission system or sub-assembly according to prescribed procedures and specifications</p> <p>5.2 Verify correct operation of the system using fluid power principles and system application techniques</p> <p>5.3 Instigate appropriate follow-up procedures</p>

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

5.4 Update maintenance records/service reports

Foundation Skills

This section describes those required skills (reading, writing, oral communication and numeracy) that are essential to workplace performance in this unit of competency.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Pneumatic systems include one (1) or more of the following:

- pneumatic assemblies/sub-assemblies
- stationary/mobile equipment
- pneumatic power tools

Test equipment includes one (1) or more of the following:

- leak testers
- escape rate gauges
- hand held pressure testers
- other appropriate equipment

Rectify includes one (1) or more of the following:

- replacement
- repair and/or reuse of components

Unit Mapping Information

Release 2. Supersedes and is equivalent to MEM18019 Maintain pneumatic systems (Release 1).

Release 1. Supersedes and is equivalent to MEM18019B Maintain pneumatic systems.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

Assessment Requirements for MEM18019 Maintain pneumatic systems

Modification History

Release 2. Quantum of hours of workplace practice removed. Supersedes and is equivalent to MEM18019 Maintain pneumatic systems (Release 1).

Release 1. Supersedes and is equivalent to MEM18019B Maintain pneumatic systems.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria on at least two (2) occasions and include:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- obtaining and interpreting maintenance reports and preventative maintenance schedules
- inspecting and testing pneumatic system components, assemblies or sub-assemblies and carrying out preventative maintenance tasks to predetermined specifications using fluid power principles, tools and equipment
- checking component parts visually and dimensionally for compliance to specification and, where appropriate, marking faulty parts for repair, replacement or adjustment
- consulting with system operator and carrying out visual inspection of pneumatic system and components with respect to the fault being investigated and other anomalies
- undertaking fault-finding and verifying and confirming faults/malfunctions
- isolating and depressurising system or sub-assembly, confirming and using appropriate tagging system according to SOPs
- removing, dismantling and repairing/overhauling faulty system components or sub-assembly, including selecting replacement parts from manufacturers'/suppliers' catalogues, to site or manufacturers' specifications
- assembling pneumatic components or sub-assembly for compliance to specifications, refitting items to equipment and testing for correct operation
- recommissioning pneumatic system/sub-assembly to specifications and verifying correct operation and initiating any follow-up procedures
- updating and completing maintenance records and/or service reports.

Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include knowledge of:

- safe work practices and procedures and use of personal protective equipment (PPE)
- pneumatic principles

- manufacturers' specifications and structure of common pneumatic system components and their constituent parts
- pneumatic system/component faults that can be determined by visual inspection
- application of common pneumatic system/component test equipment
- scheduled preventative maintenance tasks
- common pneumatic system and component faults and any previous faults
- any previous maintenance carried out on the pneumatic system/components
- typical checks/tests that can be carried out on pneumatic systems/components and their application
- pneumatic system/component tests and testing techniques
- apparent faults/malfunctions
- documentation/reporting requirements with respect to verified faults/malfunctions
- procedures for initiating repair and/or overhaul of the pneumatic system
- procedures for isolating and depressurising pneumatic systems
- tagging requirements for isolated systems
- appropriate repair/overhaul procedures of pneumatic components
- pneumatic system operational specifications and system recommissioning procedures
- any appropriate follow-up maintenance or operational checks
- maintenance recording/reporting requirements and consequences of inaccurate or incomplete recording/reporting of maintenance/service activities.

Assessment Conditions

- Assessors must:
 - have vocational competency in maintaining pneumatic systems at least to the level being assessed with relevant industry knowledge and experience
 - satisfy the assessor requirements in the *Standards for Registered Training Organisations 2015* or its replacement and comply with the *National Vocational Education and Training Regulator Act 2011*, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires.
- Assessment must occur in a functioning workplace. Where assessment in the workplace would be unsafe, impractical or threatens the environment, assessment must occur in a sufficiently rigorous simulated environment that reflects the circumstances that would be experienced in a functioning workplace. Assessment must cover all aspects of workplace performance, including task skills, task management skills, contingency management skills and job role environment skills.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

MEM18020 Maintain hydraulic system components

Modification History

Release 2. Quantum of hours of workplace practice removed. Supersedes and is equivalent to MEM18020 Maintain hydraulic system components (Release 1).

Release 1. Supersedes and is equivalent to MEM18020B Maintain hydraulic system components.

Application

This unit of competency defines the skills and knowledge required to check hydraulic system components, identify, and repair or replace faulty components.

Hydraulic system components are identified and inspected and assessed using fluid power principles to predetermined specifications interpreted from data sheets and circuits diagrams.

Where straightforward removals/replacement of components from a hydraulic system is required unit MEM18055 Dismantle, replace and assemble engineering components and unit MEM18071 Connect and disconnect fluid conveying system components, should be selected as appropriate.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Band: A

Unit Weight: 4

Pre-requisite Unit

MEM09002	Interpret technical drawing
MEM11011	Undertake manual handling
MEM12023	Perform engineering measurements
MEM12024	Perform computations
MEM13015	Work safely and effectively in manufacturing and engineering
MEM14006	Plan work activities

MEM16006	Organise and communicate information
MEM18001	Use hand tools
MEM18002	Use power tools/hand held operations
MEM18003	Use tools for precision work
MEM18006	Perform precision fitting of engineering components
MEM18055	Dismantle, replace and assemble engineering components

Competency Field

Maintenance and diagnostics

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1	Determine job requirements	1.1	Follow standard operating procedures (SOPs)
		1.2	Comply with work health and safety (WHS) requirements at all times
		1.3	Use appropriate personal protective equipment (PPE) in accordance with SOPs
		1.4	Identify job requirements from specifications, drawings, job sheets or work instructions
2	Check hydraulic system components	2.1	Identify the characteristics and operational function of each system component
		2.2	Inspect and test the operational function of each component
		2.3	Assess correct operation of each component against specifications
3	Identify and	3.1	Localise faulty system components and confirm

Elements describe the essential outcomes.

repair or replace faulty hydraulic system components

Performance criteria describe the performance needed to demonstrate achievement of the element.

- malfunction by inspection and testing using fluid power principles, procedures and safety requirements
- 3.2 Dismantle faulty system components and repair to manufacturers'/site specifications
 - 3.3 Select replacement parts from appropriate sources
 - 3.4 Reassemble system components and test for correct operation and assessment against specifications
 - 3.5 Confirm correct operation of the hydraulic system according to SOPs
 - 3.6 Adopt appropriate follow-up procedures
 - 3.7 Complete service reports

Foundation Skills

This section describes those required skills (reading, writing, oral communication and numeracy) that are essential to workplace performance in this unit of competency.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Hydraulic system components include one (1) or more of the following:

- static and dynamic seals
- linear and semi-rotary actuators
- fixed and variable displacement pumps
- pressure, directional and flow control valves
- hydraulic motors
- reservoirs
- contamination control components (filtration)

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

- fluid conductors/fittings
- other associated equipment

Unit Mapping Information

Release 2. Supersedes and is equivalent to MEM18020 Maintain hydraulic system components (Release 1).

Release 1. Supersedes and is equivalent to MEM18020B Maintain hydraulic system components.

Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

Assessment Requirements for MEM18020 Maintain hydraulic system components

Modification History

Release 2. Quantum of hours of workplace practice removed. Supersedes and is equivalent to MEM18020 Maintain hydraulic system components (Release 1).

Release 1. Supersedes and is equivalent to MEM18020B Maintain hydraulic system components.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria on at least two (2) occasions and include:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- identifying and interpreting specifications, charts, lists, drawings and other applicable reference documents to maintain hydraulic system components
- inspecting and testing hydraulic system components to predetermined specifications using fluid power principles
- checking component parts visually and dimensionally for compliance to specification and, where appropriate, marking faulty parts for repair, replacement or adjustment
- dismantling and repairing faulty system components, including selecting replacement parts from manufacturers'/suppliers' catalogues, to site or manufacturers' specifications
- assembling and testing hydraulic components for correct operation and compliance to specifications
- checking the operation of the hydraulic system for compliance to specifications
- completing service reports in accordance with SOPs.

Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include knowledge of:

- safe work practices and procedures and use of personal protective equipment (PPE)
- Full range of hydraulic system components characteristics/ operational function of each component
- procedures and equipment for inspecting and testing hydraulic system components
- specifications of each hydraulic system component
- faulty system components and causes of faulty components
- individual components within the hydraulic system
- procedure for repairing hydraulic system components

- procedures for checking hydraulic system operation
- follow-up procedures with respect to repaired/replaced hydraulic system components
- reporting/recording procedures.

Assessment Conditions

- Assessors must:
 - have vocational competency in maintaining hydraulic system components at least to the level being assessed with relevant industry knowledge and experience
 - satisfy the assessor requirements in the *Standards for Registered Training Organisations 2015* or its replacement and comply with the *National Vocational Education and Training Regulator Act 2011*, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires.
- Assessment must occur in a functioning workplace. Where assessment in the workplace would be unsafe, impractical or threatens the environment, assessment must occur in a sufficiently rigorous simulated environment that reflects the circumstances that would be experienced in a functioning workplace. Assessment must cover all aspects of workplace performance, including task skills, task management skills, contingency management skills and job role environment skills.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

MEM18021 Maintain hydraulic systems

Modification History

Release 2. Quantum of hours of workplace practice removed. Supersedes and is equivalent to MEM18021 Maintain hydraulic systems (Release 1).

Release 1. Supersedes and is equivalent to MEM18021B Maintain hydraulic systems.

Application

This unit of competency defines the skills and knowledge required to undertake preventive maintenance checks/adjustments on hydraulic systems, and fault-find, replace, repair or overhaul and recommission hydraulic systems.

Where the skills and knowledge required relate to mobile plant in agriculture, forestry, rail, marine and other transport operations unit MEM27017 Maintain, fault find and rectify hydraulic systems for mobile plant should be selected.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Band: B

Unit Weight: 4

Pre-requisite Unit

MEM09002	Interpret technical drawing
MEM11011	Undertake manual handling
MEM12023	Perform engineering measurements
MEM12024	Perform computations
MEM13015	Work safely and effectively in manufacturing and engineering
MEM14006	Plan work activities
MEM16006	Organise and communicate information
MEM18001	Use hand tools
MEM18002	Use power tools/hand held operations

MEM18003	Use tools for precision work
MEM18006	Perform precision fitting of engineering components
MEM18020	Maintain hydraulic system components
MEM18055	Dismantle, replace and assemble engineering components

Competency Field

Maintenance and diagnostics

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1	Determine job requirements	1.1	Follow standard operating procedures (SOPs)
		1.2	Comply with work health and safety (WHS) requirements at all times
		1.3	Use appropriate personal protective equipment (PPE) in accordance with SOPs
		1.4	Identify job requirements from specifications, drawings, job sheets or work instructions
2	Undertake preventative maintenance checks/adjustments on hydraulic systems	2.1	Identify system components, assemblies or sub-assemblies and prepare for inspection/preventative maintenance
		2.2	Carry out visual inspection and testing with appropriate test equipment according to fluid power principles, procedures and safety requirements
		2.3	Perform scheduled preventive maintenance tasks, including obvious repairs and adjustments, according to manufacturers' specifications using fluid power techniques/practices
3	Undertake fault	3.1	Identify designated hydraulic system components and

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
finding on hydraulic systems	carry out a visual inspection of the system for the collection of fault-finding data
	3.2 Consult system operator and collect additional data, where appropriate
	3.3 Check maintenance reports and preventative maintenance schedules and review for additional fault-finding data
	3.4 Undertake checks and tests
	3.5 Identify and verify faults and malfunctions
	3.6 Document or report faults and malfunctions to designated personnel using appropriate procedures
4 Repair and/or rectify hydraulic system	4.1 Isolate system or sub-assembly and discharge residue pressure safely in accordance with prescribed procedure and check for correct isolation
	4.2 Tag isolated system or sub-assembly according to SOPs
	4.3 Remove components or sub-assembly from system
	4.4 Dismantle components or sub-assemblies, examine and verify for replacement, repair or overhaul
	4.5 Select replacement items from appropriate sources
	4.6 Rectify faulty items
	4.7 Refit component or sub-assembly items to equipment and test for correct operation against specifications
5 Recommission hydraulic system	5.1 Recommission system or sub-assembly according to prescribed procedures and specifications
	5.2 Verify correct operation of the system using fluid power principles and system application techniques
	5.3 Instigate appropriate follow-up procedures

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

5.4 Update maintenance records/service reports

Foundation Skills

This section describes those required skills (reading, writing, oral communication and numeracy) that are essential to workplace performance in this unit of competency.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Test equipment includes one (1) or more of the following:

- leak testers
- escape rate gauges
- hand held pressure testers
- other appropriate equipment

Rectify includes one (1) or more of the following:

- replacement
- repair and/or reuse of components

Unit Mapping Information

Release 2. Supersedes and is equivalent to MEM18021 Maintain hydraulic systems (Release 1).

Release 1. Supersedes and is equivalent to MEM18021B Maintain hydraulic systems.

Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

Assessment Requirements for MEM18021 Maintain hydraulic systems

Modification History

Release 2. Quantum of hours of workplace practice removed. Supersedes and is equivalent to MEM18021 Maintain hydraulic systems (Release 1).

Release 1. Supersedes and is equivalent to MEM18021B Maintain hydraulic systems.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria on at least two (2) occasions and include:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- obtaining and interpreting maintenance reports and preventative maintenance schedules
- inspecting and testing hydraulic system components, assemblies or sub-assemblies and carrying out preventative maintenance tasks to predetermined specifications using fluid power principles, tools and equipment
- consulting with system operator and carrying out visual inspection of hydraulic system and components with respect to the fault being investigated and other anomalies
- undertaking fault-finding and verifying and confirming faults/malfunctions
- checking component parts visually and dimensionally for compliance to specification and, where appropriate, marking faulty parts for repair, replacement or adjustment
- isolating and depressurising system or sub-assembly, confirming and using appropriate tagging system according to SOPs
- removing, dismantling and repairing/overhauling faulty system components or sub-assembly, including selecting replacement parts from manufacturers'/suppliers' catalogues, to site or manufacturers' specifications
- assembling hydraulic components or sub-assembly for compliance to specifications, refitting items to equipment and testing for correct operation
- recommissioning hydraulic system/sub-assembly to specifications and verifying correct operation and initiating any follow-up procedures
- updating and completing maintenance records and/or service reports.

Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include knowledge of:

- safe work practices and procedures and use of personal protective equipment (PPE)
- hydraulic principles

- manufacturers' specifications and structure of common hydraulic system components and their constituent parts
- hydraulic system/component faults that can be determined by visual inspection
- application of common hydraulic system/component test equipment
- scheduled preventative maintenance tasks
- common hydraulic system and component faults and any previous faults
- any previous maintenance carried out on the hydraulic system/components
- typical checks/tests that can be carried out on hydraulic systems/components and their application
- hydraulic system/component tests and testing techniques
- apparent faults/malfunctions
- documentation/reporting requirements with respect to verified faults/malfunctions
- procedures for initiating repair and/or overhaul of the hydraulic system
- procedures for isolating and depressurising hydraulic systems
- tagging requirements for isolated systems
- appropriate repair/overhaul procedures of hydraulic components
- hydraulic system operational specifications and system recommissioning procedures
- any appropriate follow-up maintenance or operational checks
- maintenance recording/reporting requirements and consequences of inaccurate or incomplete recording/reporting of maintenance/service activities.

Assessment Conditions

- Assessors must:
 - have vocational competency in maintaining hydraulic systems at least to the level being assessed with relevant industry knowledge and experience
 - satisfy the assessor requirements in the *Standards for Registered Training Organisations 2015* or its replacement and comply with the *National Vocational Education and Training Regulator Act 2011*, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires.
- Assessment must occur in a functioning workplace. Where assessment in the workplace would be unsafe, impractical or threatens the environment, assessment must occur in a sufficiently rigorous simulated environment that reflects the circumstances that would be experienced in a functioning workplace. Assessment must cover all aspects of workplace performance, including task skills, task management skills, contingency management skills and job role environment skills.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

MEM18055 Dismantle, replace and assemble engineering components

Modification History

Release 1. Supersedes and is equivalent to MEM18055B Dismantle, replace and assemble engineering components

Application

This unit of competency defines the skills and knowledge required to dismantle, identify faulty components, select replacements and assemble engineering components into assemblies or sub-assemblies in accordance with standard operating procedures (SOPs).

It also applies to the straightforward removal and replacement of pre-manufactured bearings and seals.

Where precision mechanical measurement is required unit MEM12003 Perform precision mechanical measurement should also be selected.

Where fitting techniques and principles are required to assess component condition, and/or modify components to achieve precision fits unit MEM18006 Perform precision fitting of engineering components should also be selected.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Band: A

Unit Weight: 3

Pre-requisite Unit

MEM09002	Interpret technical drawing
MEM11011	Undertake manual handling
MEM12023	Perform engineering measurements
MEM13015	Work safely and effectively in manufacturing and engineering

MEM16006	Organise and communicate information
MEM18001	Use hand tools
MEM18002	Use power tools/hand held operations

Competency Field

Maintenance and diagnostics

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1	Determine job requirements	1.1	Follow standard operating procedures (SOPs)
		1.2	Comply with work health and safety (WHS) requirements at all times
		1.3	Use appropriate personal protective equipment (PPE) in accordance with SOPs
		1.4	Identify job requirements from specifications, drawings, job sheets or work instructions
2	Dismantle engineering components	2.1	Inspect engineering components and analyse task requirements
		2.2	Dismantle components using appropriate tools and techniques
		2.3	Mark components for identification, where required
3	Identify faulty components and select replacement parts	3.1	Obtain and interpret specifications for components from appropriate source
		3.2	Identify out-of-specification, damaged or faulty components
		3.3	Identify faulty components for repair, replacement or adjustment

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

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|---|--|--|
| 4 | Assemble engineering components into assemblies or sub-assemblies | <p>3.4 Select replacement and/or repaired parts for reassembly</p> <p>4.1 Prepare, assemble and adjust components using fastening equipment and methods using appropriate tools, equipment and techniques which ensures compliance to specifications</p> <p>4.2 Select and apply lubrication, packing and sealing materials</p> <p>4.3 Inspect, test and adjust final component assembly, as necessary, for compliance with operational specifications and return to use according to SOPs</p> |
|---|--|--|

Foundation Skills

This section describes those required skills (reading, writing, oral communication and numeracy) that are essential to workplace performance in this unit of competency.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Engineering components include one (1) or more of the following:

- couplings
- universal joints
- pumps employing shafts
- pre-manufactured bearings and seals
- lubricants
- fasteners
- gaskets

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Appropriate tools and equipment include one (1) or more of the following:

- a range of hand and power tools
- bearing pullers
- special purpose dismantling and assembly tools

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM18055B Dismantle, replace and assemble engineering components

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

Assessment Requirements for MEM18055 Dismantle, replace and assemble engineering components

Modification History

Release 1. Supersedes and is equivalent to MEM18055B Dismantle, replace and assemble engineering components

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria on at least two (2) occasions and include:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- identifying and interpreting specifications, charts, lists, drawings and other applicable reference documents to dismantle, replace and assemble engineering components
- dismantling components using appropriate techniques, tools and equipment and marking component parts for reassembly purposes
- checking component parts visually and dimensionally for compliance to specification and marking faulty parts for repair, replacement or adjustment
- selecting replacement parts using manufacturers' catalogues and data
- assembling components using appropriate techniques and principles
- inspecting final assembly for compliance to specifications
- returning the final assembly to service in accordance with SOPs.

Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include knowledge of:

- safe work practices and procedures and use of personal protective equipment (PPE)
- tasks to be performed in accordance with SOPs
- tools and equipment associated with dismantling the components
- procedures for:
 - checking components for conformance to specification and equipment required
 - assembling components and requirements of the assembly in terms of specifications, operational performance, quality and safety
 - lubricating the assembly
 - returning components/assemblies into use and checks to be undertaken during inspection of the final assembly
- specifications of the components to be replaced, including features and/or dimensions
- process of identifying replacement parts from catalogues

- packing and sealing materials.

Assessment Conditions

- Assessors must:
 - have vocational competency in dismantling, replacing and assembling engineering components at least to the level being assessed with relevant industry knowledge and experience
 - satisfy the assessor requirements in the *Standards for Registered Training Organisations 2015* or its replacement and comply with the *National Vocational Education and Training Regulator Act 2011*, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires
- Where possible assessment must occur in operational workplace situations. Where this is not possible or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

MEM18071 Connect and disconnect fluid conveying system components

Modification History

Release 1. Supersedes and is equivalent to MEM18071B Connect/disconnect fluid conveying system components

Application

This unit of competency defines the skills and knowledge required to safely remove and replace a range of fluid conveying components and assemblies, and inspect/test fluid conveying assemblies.

It applies to repairs and replacement to pressure and suction systems on fixed and mobile plant/equipment, including marine, heavy plant and manufacturing plant applications with system pressures range of 10.5 MPa to 35 MPa, ranging up to 70 MPa.

Where interpretation of technical drawings is required unit MEM09002 Interpret technical drawing should also be selected.

Where the selection and use of engineering measurement is required unit MEM12023 Perform engineering measurements should also be selected.

This unit should not be selected when unit MEM18055 Dismantle, replace and assemble engineering components or unit MEM27017 Maintain, fault find and rectify hydraulic systems for mobile plant has already been selected.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Band: A

Unit Weight: 2

Pre-requisite Unit

MEM11011 Undertake manual handling

MEM13003 Work safely with industrial chemicals and materials

MEM13015	Work safely and effectively in manufacturing and engineering
MEM16006	Organise and communicate information
MEM18001	Use hand tools

Competency Field

Maintenance and diagnostics

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1	Determine job requirements	1.1	Follow standard operating procedures (SOPs)
		1.2	Comply with work health and safety (WHS) requirements at all times
		1.3	Use appropriate personal protective equipment (PPE) in accordance with SOPs
		1.4	Identify job requirements from specifications, job sheets or work instructions
2	Disconnect fluid conveying components and assemblies	2.1	Carry out safety/risk assessment, identify potentially hazardous situations/conditions and position safety devices
		2.2	Note, record and label lay out of fluid conveying conductor
		2.3	Identify faulty component/assembly using specific troubleshooting procedures, reference documents and fluid power principles
		2.4	Disconnect and remove fluid conveying components and assemblies using appropriate tools, equipment, procedures and techniques
		2.5	Seal open system adequately with standard or special purpose sealing materials

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

- | | | | |
|---|--|-----|---|
| 3 | Obtain replacement parts | 3.1 | Select replacement parts from manufacturer catalogues and other relevant reference sources according to international standards and specifications |
| 4 | Test and store components | 4.1 | Pressure test fluid conveying assemblies and individual components according to industry and manufacturer standards and using fluid power principles |
| | | 4.2 | Assess and note condition |
| | | 4.3 | Clean, seal and store components/assemblies according to industry and manufacturer standards |
| 5 | Connect fluid conveying components and assemblies | 5.1 | Check connections and prepare for reconnection |
| | | 5.2 | Connect components and assemblies to equipment to specifications using appropriate techniques |
| | | 5.3 | Remove tagged out equipment, signage and safety blocking devices according to SOPs |
| | | 5.4 | Check equipment and fluid conveying systems and functional test, including in-situ and high pressure test rigs for correct operation according to manufacturer and industry standards |
| 6 | Report results | 6.1 | Follow reporting and certification procedures |
| | | 6.2 | Complete all relevant information |

Foundation Skills

This section describes those required skills (reading, writing, oral communication and numeracy) that are essential to workplace performance in this unit of competency.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Fluid conveying applications include one (1) or more of the following:

- hydraulic
- pneumatic
- water
- gas
- acids/corrosives/alkalines
- abrasives
- petroleum
- other dry/wet media

Potentially hazardous situations/ conditions include one (1) or more of the following:

- accumulated pressure
- contamination
- fluid handling

Components and assemblies include one (1) or more of the following:

- high pressure seals
- seats
- hoses
- tubes
- pipes
- fittings
- connectors
- adaptors and anchors
- other associated attachments

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM18071B Connect/disconnect fluid conveying system components

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

Assessment Requirements for MEM18071 Connect and disconnect fluid conveying system components

Modification History

Release 1. Supersedes and is equivalent to MEM18071B Connect/disconnect fluid conveying system components

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria on at least two (2) occasions and include:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- identifying and interpreting specifications and obtaining relevant data with respect to connecting and disconnecting fluid conveying system components
- identifying potential hazardous situations and carrying out a risk assessment and isolating, tagging, locking off and displaying signage using appropriate procedures
- locating faulty component, neutralising pressures and disconnecting and removing fluid conveying components and assemblies using appropriate techniques, tools and equipment and sealing open system with appropriate sealing materials
- selecting replacement components from manufacturer catalogues and other reference sources
- performing pressure testing on fluid conveying assemblies and individual components using fluid power principles and undertaking condition and serviceability assessment and storing components/assemblies according to industry standards
- connecting components and assemblies to equipment, removing tagged out equipment, signage and safety blocking devices
- testing equipment and fluid conveying systems using appropriate test equipment and rigs for compliance to manufacturer and industry standards
- completing routine reports and certification procedures.

Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include knowledge of:

- safe work practices and procedures and use of personal protective equipment (PPE)
- different sources of stored energy and their applications
- work health and safety (WHS) responsibilities of customer and self
- safety/security lock-off devices and signage and procedures and reasons for installing lock-off devices and signage
- basic functions of fluid power systems, including:

- effects of heat and contamination
- pressures
- flow rates and temperatures
- hose strength and size
- effect of media on hoses
- test
- operational and burst pressures
- techniques and safety practices for pressure testing
- tools, techniques and procedures for removal of components
- troubleshooting techniques
- standard and specific sealing materials and techniques
- different fluid conveying parts and their function
- techniques and safety practices for pressure testing
- criteria for assessment
- methods of cleaning, sealing and storage
- techniques and criteria for connection and confirming connection
- techniques, procedures and safety practices. including neutralisation of pressures.

Assessment Conditions

- Assessors must:
 - have vocational competency in connecting and disconnecting fluid conveying system components at least to the level being assessed with relevant industry knowledge and experience
 - satisfy the assessor requirements in the *Standards for Registered Training Organisations 2015* or its replacement and comply with the *National Vocational Education and Training Regulator Act 2011*, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires
- Where possible assessment must occur in operational workplace situations. Where this is not possible or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

MEM30021 Prepare a simple production schedule

Modification History

Release 1. Supersedes and is equivalent to MEM30021A Prepare a simple production schedule.

Application

This unit of competency defines the skills and knowledge required for the scheduling of production that involves several interconnected manufacturing processes. It relates to the preparation of a schedule for the manufacture of a single component or single assembly function or to operations for a single small production work unit or production cell. The schedule involves only a small number of constraints or variables.

Where skills are required to determine steps in a manufacturing process unit MEM30018 Undertake basic process planning should also be selected.

The unit applies to manufacturing production or related activities and is suitable for people giving technical support in manufacturing or engineering operations and those pursuing technical qualifications and careers at paraprofessional or technician level. All work is carried out under supervision.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Engineering technician

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Identify production requirements	1.1 Follow standard operating procedures (SOPs) and comply with work health and safety (WHS) requirements at all times 1.2 Identify the production processes to be used from instructions and specifications provided

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	1.3 Obtain customer requirements in terms of volume, quality, delivery time and arrangements from supervisor or other appropriate sources 1.4 Analyse customer and process requirements to determine production requirements
2. Develop an activity plan	2.1 Divide production requirements into activity elements 2.2 Construct a network diagram that reflects activities 2.3 Determine the critical path 2.4 Determine the latest start, earliest finish and slack time for activity elements to meet requirements 2.5 Obtain assistance and approval from supervisor
3. Prepare the production schedule	3.1 Prepare a production schedule 3.2 Prepare a bill of materials to assist in control of materials 3.3 Depict schedule using a Gantt chart or similar graphical display 3.4 Ensure schedule allows for future changes to improve performance 3.5 Obtain assistance and approval from supervisor
4. File and issue the schedule	4.1 Review and test the schedule with appropriate personnel 4.2 Refer the schedule to appropriate personnel for implementation 4.3 Provide all supporting documents for implementation 4.4 File and issue the schedule in accordance with SOPs

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the

candidate, accessibility of the item, and local industry and regional contexts) are included.	
Production requirements include:	<ul style="list-style-type: none"> • the production processes to be used • machine availability and capability • inventory requirements • procurements • supply capacities • contingency analysis.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM30021A Prepare a simple production schedule.

Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

Assessment Requirements for MEM30021 Prepare a simple production schedule

Modification History

Release 1. Supersedes and is equivalent to MEM30021A Prepare a simple production schedule.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include:

- identifying production requirements
- developing an activity plan of production requirements on at least two occasions
- preparing the production schedule on at least two occasions
- filing and issuing the schedule.

Note: Where a volume and/or frequency is not specified, demonstration must be provided at least once.

Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include knowledge of:

- types of production including:
 - jobbing production
 - batch production
 - process production
- just- in-time (JIT) procedures
- cellular manufacture
- scheduling
- interpreting customer requirements
- machine capability and selection
- Gantt charts
- contingency plans
- project planning techniques at an introductory level
- program evaluation and review technique (PERT) and critical path methods (CPM) diagrams at an introductory level
- critical path networks at an introductory level
- hazards and control measures associated with preparing a simple production schedule, including housekeeping.

Assessment Conditions

- Assessors must:
 - have vocational competency in preparing a simple production schedule at least to the level being assessed with relevant industry knowledge and experience
 - satisfy the assessor requirements in the Standards for Registered Training Organisations 2015 or its replacement and comply with the National Vocational Education and Training Regulator Act 2011, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires.
- Where possible, assessment must occur in operational workplace situations. Where this is not possible or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions that cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required including relevant workplace procedures, product and manufacturing specifications.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

MEM30032 Produce basic engineering drawings

Modification History

Release 1. Supersedes and is equivalent to MEM30032A Produce basic engineering drawings.

Application

This unit of competency defines the skills and knowledge required to produce drawings or similar graphical representations where the critical dimensions and associated tolerances and design specifications are predetermined.

This unit applies to any engineering discipline. The unit covers application of introductory drafting skills to select and apply drawing protocols. Drawings are completed to Australian Standard (AS) 1100.101 Technical drawing – General principles.

Manual drafting or computer-aided design (CAD) drawing equipment may be used.

When CAD skills are required, unit MEM30031 Operate computer-aided design (CAD) system to produce basic drawing elements should also be selected.

The unit applies to engineering or related activities and is suitable for people giving technical support in manufacturing or engineering operations and those pursuing technical qualifications and careers at paraprofessional or technician level. All work is carried out under supervision.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Drawing, drafting and design

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Identify drawing	1.1 Follow standard operating procedures (SOPs) and comply with work

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
requirements	<p>health and safety (WHS) requirements at all times</p> <p>1.2 Identify information requirements for work and obtain all relevant job requirements and design specifications</p> <p>1.3 Identify, interpret and analyse drawing requirements from specifications</p> <p>1.4 Interpret and apply industry terminology for drawing work</p> <p>1.5 Confirm communication practices required during drawing work</p> <p>1.6 Establish time requirements for completing work</p>
2. Select drawing features	<p>2.1 Set up drawing list or register based on drawing requirements</p> <p>2.2 Determine level of detail and numbers of drawings required for work</p> <p>2.3 Plan presentation and layout, and determine drawing sheets and appropriate scales and text style and size</p> <p>2.4 Identify features and applications of line types and thicknesses and select for drawing work</p> <p>2.5 Establish datums and dimensions</p>
3. Prepare and detail drawings	<p>3.1 Prepare drawings in plane orthogonal, isometric projection or equivalent</p> <p>3.2 Detail drawings in third angle projection, including auxiliary views, sections and assemblies</p> <p>3.3 Draw sections through engineering components incorporating correct use of cutting plane symbols and conventions</p> <p>3.4 Include appropriate symbols for limits and fits, surface texture and geometric tolerances</p> <p>3.5 Resolve problems in consultation with a supervisor</p> <p>3.6 Check drawing compliance with work instructions and specifications</p>
4. Select physical dimensions and produce engineering parts list	<p>4.1 Select components and/or materials from supplier or manufacturer catalogues using predetermined design specifications according to work requirements</p> <p>4.2 Produce an engineering parts list in accordance with SOPs</p>
5. Complete drawing documentation	<p>5.1 Obtain approval for drawings and/or parts list</p>

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	5.2 Store approved drawings and/or parts lists 5.3 Catalogue and issue drawing and documentation in accordance with SOPs

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.	
Specifications can be obtained from one or more of the following:	<ul style="list-style-type: none"> • design information • customer • sketches • preliminary layouts.
Drawings include one or more of the following:	<ul style="list-style-type: none"> • plans • diagrams • charts.
Consultation includes one or more of the following:	<ul style="list-style-type: none"> • reference to appropriate personnel • including technical supervisors • manufacturers • suppliers • contractors • customers.
Engineering parts list includes one or more of the following:	<ul style="list-style-type: none"> • part name • description of part • material specification or part number • quantities.

Issued drawings include one or more of the following:	<ul style="list-style-type: none">• hard copy• photographic, slide or transparency form, including presentation as a single drawing and/or with other drawings• support documentation as a package.
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Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM30032A Produce basic engineering drawings.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

Assessment Requirements for MEM30032 Produce basic engineering drawings

Modification History

Release 1. Supersedes and is equivalent to MEM30032A Produce basic engineering drawings.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include:

- producing basic engineering drawings to AS 1100.101 Technical drawing – General principles on at least two occasions
- producing drawings in orthogonal and isometric projection to AS 1100.101 Technical drawing - General principles, on at least two occasions
- producing drawings in third angle projection, including auxiliary views, sections and assemblies on at least two occasions including all details, symbols and notations on drawings.

Note: Where a volume and/or frequency is not specified, demonstration must be provided at least once.

Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include knowledge of:

- layout conventions
- effective use of blank space, location of notes and symbols
- sectioning
- graphical techniques at an overview level
- assembly and explosion drawings
- schematics/line drawings, graphs and pictorials
- standard engineering drawing symbols, references and terminology
- application of surface finish symbols to drawings
- uses of scales
- uses and types of line weights
- uses and types of drawing sheets
- type of information provided with drawings.

Assessment Conditions

- Assessors must:

- have vocational competency in producing basic engineering drawings at least to the level being assessed with relevant industry knowledge and experience
- satisfy the assessor requirements in the Standards for Registered Training Organisations 2015 or its replacement and comply with the National Vocational Education and Training Regulator Act 2011, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires.
- Where possible, assessment must occur in operational workplace situations. Where this is not possible or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions that cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required including relevant workplace procedures, product and manufacturing specifications.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

MSFDN4003 Produce patterns and templates

Modification History

Release 1 - New unit of competency

Application

This unit of competency covers developing patterns and/or templates for production processes by hand, by using appropriate tools and equipment, and by computer-assisted production.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Competency Field

Unit Sector

Furnishing design

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1	Prepare for and dimension the task	1.1	Work health and safety (WHS) requirements, including personal protection needs, are observed throughout the work
		1.2	Customer orders are interpreted to establish required sizes of finished products
		1.3	Size requirements are checked in relation to the production process and finishing capacity of the workplace
2	Plan process	2.1	Material for pattern or template is identified for approximate size and characteristics
		2.2	Required instruments and equipment are identified, located and assembled

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|---|------------------------------|-----|--|
| | | 2.3 | Drawings and related specifications are interpreted |
| | | 2.4 | Procedures for using pattern development instruments and tools are checked and equipment is prepared for use |
| 3 | Plot dimensions | 3.1 | Equipment and tools are used following normal workplace procedures |
| | | 3.2 | Each dimension is measured, exploded and plotted maintaining appropriate angles, arcs and curves |
| | | 3.3 | Visual inspection and measurements are used to compare pattern dimensions and shapes with drawings and specifications |
| 4 | Complete pattern or template | 4.1 | Pattern or template is completed ensuring that the pattern indicates completion date and original drawing details |
| | | 4.2 | Required workplace approval of pattern or template is obtained |
| | | 4.3 | Plans are marked with notations for workplace requirements, including authorship, process or customer requirements, authorisation and any review dates |
| | | 4.4 | Plans are copied and filed, as required, according to workplace policies and procedures |

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency. Detail on appropriate performance levels for each furnishing unit of competency in reading, writing, oral communication and numeracy utilising the Australian Core Skills Framework (ACSF) are provided in the Furnishing Training Package Implementation Guide.

Range of Conditions

Specifies different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included. Range is restricted to essential operating conditions and any other variables essential to the

work environment.

Unit context includes:

- WHS requirements, including legislation, building codes, material safety management systems, hazardous and dangerous goods codes, and local safe operating procedures or equivalent
- work is carried out in accordance with legislative obligations, environmental legislation, relevant health regulations, manual handling procedures and organisation insurance requirements
- work requires individuals to demonstrate conceptual ability, discretion, judgement and problem-solving skills in the production of patterns or templates
- work is performed with little external assistance and with minimal supervision or direction
- development of patterns and/or templates is undertaken in accordance with established enterprise procedures and practices
- customers may be internal or external

Tools and equipment include:

- computer numeric controlled (CNC) machines
- static woodworking machines
- relevant hand tools

Materials include:

- manufactured board
- solid timbers
- composite materials

Personal protective equipment includes:

- that prescribed under legislation, regulations and enterprise policies and practices

Information and procedures include:

- work organisation procedures and practices relating to the production of patterns and/or templates
- designer/drawer specifications and instructions
- legislation/regulations/codes relevant to the work undertaken
- furniture production techniques and criteria, including ergonomic requirements
- quality and Australian Standards and procedures

Unit Mapping Information

Supersedes and is equivalent to LMFDN4003B Produce patterns and/or templates

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0601ab95-583a-4e93-b2d4-cfb27b03ed73>

Assessment Requirements for MSFDN4003 Produce patterns and templates

Modification History

Release 1 - New unit of competency

Performance Evidence

- Interpret work order and locate and apply relevant information
- Apply safe handling requirements for equipment, products and materials, including use of personal protective equipment
- Identify materials used in the work process
- Follow work instructions, operating procedures and inspection processes to:
 - minimise the risk of injury to self or others
 - prevent damage to goods, equipment and products
 - maintain required production output and product quality
- Interpret drawings and extrapolate to physical dimensions
- Select appropriate mediums and materials and produce a minimum of three (3) patterns or templates making use of:
 - manufactured board
 - solid timber
 - composite material
- Suggest improvements to pattern and template production and, where authorised, negotiate changes
- Use mathematical ideas and techniques to correctly complete measurements, calculate area and estimate material requirements
- Communicate ideas and information to enable confirmation of work requirements and specifications and the reporting of work outcomes and problems, interpret basic plans and follow safety procedures
- Avoid backtracking, work flow interruptions or wastage
- Work with others and in a team by recognising dependencies and using cooperative approaches to optimise work flow and productivity

Knowledge Evidence

- Company operating procedures, including procedures for pattern and/or template production
- Types, characteristics uses and limitations of pattern/template materials
- Operation requirements of equipment and work systems in own work area
- Competency requirements of the work activities
- Relevant regulatory requirements, recognised standards and codes, and industry practices

Assessment Conditions

- Assessors must:
 - hold training and assessment competencies as determined by the National Skills Standards Council (NSSC) or its successors
 - have vocational competency in the furnishing industry at least to the level being assessed with broad industry knowledge and experience, usually combined with a relevant industry qualification
 - be familiar with the current skills and knowledge used and have relevant, current experience in the furnishing industry.
- Assessment methods must confirm consistency of performance over time rather than a single assessment event and in a range of workplace relevant contexts.
- Assessment must be by observation of relevant tasks with questioning on underpinning knowledge and, where applicable, multimedia evidence, supervisor's reports, projects and work samples.
- Assessment is to be conducted on single units of competency or in conjunction with other related units of competency. Foundation skills are integral to competent performance in the unit and should not be assessed separately.
- Assessment must occur on the job or in a workplace simulated facility with relevant process, equipment, materials, work instructions and deadlines.
- Access is required to drawings, job specifications, information on production/fabrication process, production materials and relevant computer equipment and software.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0601ab95-583a-4e93-b2d4-cfb27b03ed73>

MSFFM3032 Set up, operate and maintain sawing machines

Modification History

Release 1. Changes to code, application, elements, performance criteria, assessment requirements. Foundation skills added. Range of conditions removed. Assessment requirements changed.

Application

This unit describes the skills and knowledge required to safely and efficiently set up, operate and maintain sawing machines using their full technical potential and capacities to complete tasks such as cutting freehand curves and simple and compound angles and undertaking deep, freehand and off-fence ripping. Workers with this competency follow established procedures in timber technology industries using discretion, judgement and problem solving to identify and troubleshoot product and machinery issues.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Competency Field

Wood machining

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Prepare for task	1.1 Determine task requirements and cutting specifications from work documentation 1.2 Identify and follow work health and safety requirements 1.3 Select material for machining and check it meets task quality requirements 1.4 Check that cutting tools, jigs and other required tools and equipment are available, safe and functional 1.5 Identify procedures for waste minimisation and energy efficiency while completing task

2 Set up machines	<p>2.1 Check that emergency stops, gauges, guards, controls and safety equipment are functional prior to machine start-up</p> <p>2.2 Complete saw settings and adjust to meet task requirements in compliance with manufacturer instructions</p> <p>2.3 Complete trial runs to check that saw is fully functional and that finished work meets task accuracy and quality requirements</p> <p>2.4 Identify and make necessary adjustments to saw settings to meet task quality and efficiency requirements</p>
3 Operate machines	<p>3.1 Follow saw start-up procedures in accordance with manufacturer instructions</p> <p>3.2 Position material to be sawn in accordance with manufacturer instructions, tooling requirements, and safe handling and workplace procedures</p> <p>3.3 Operate saw in accordance with its designed capacity and purpose, and to manufacturer recommendations</p> <p>3.4 Monitor saw operation to ensure product quality and output</p> <p>3.5 Check waste quantities and make adjustments to minimise waste</p> <p>3.6 Identify items that do not meet quality requirements and recycle or discard in accordance with workplace procedures</p> <p>3.7 Recognise problems with product or saw operation and resolve or report to appropriate persons in accordance with workplace procedures</p>
4 Finalise task	<p>4.1 Clean work area, safely dispose of waste and identify items for recycling in accordance with workplace procedures and environmental standards</p> <p>4.2 Clean machinery, complete routine maintenance and leave in safe mode in accordance with workplace procedures</p> <p>4.3 Identify, tag and report faulty equipment in accordance with workplace procedures</p> <p>4.4 Complete task documentation in accordance with workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

- Reading skills to interpret familiar workplace procedures and work documentation involving drawings and product specifications
- Writing skills to communicate information in familiar workplace documents
- Numeracy skills to measure and calculate lengths, degrees and areas and estimate material requirements.

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSFFM3012 Set up, operate and maintain sawing machines.

Links

Companion Volume implementation guides are found in VETNet – -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0601ab95-583a-4e93-b2d4-cfb27b03ed73>

Assessment Requirements for MSFFM3032 Set up, operate and maintain sawing machines

Modification History

Release 1. Changes to code, application, elements, performance criteria, assessment requirements. Foundation skills added. Range of conditions removed. Assessment requirements changed.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and demonstrated the ability to:

- set up and operate at least 4 of the following types of saw to complete tasks in accordance with workplace procedures and specifications:
 - cross-cut saws
 - circular rip saws
 - sliding table panel saws and scroll-band saws
 - numerically controlled (NC) beam saws
 - wall saws
 - band re-saws and straight line edgers
- complete operator maintenance on each of the 4 machines at least once, including:
 - checking that guards, safety switches, and machine jigs and attachments are functioning correctly
 - servicing machine lubrication points
 - identifying tooling needing sharpening and repair
 - checking that drive belts are undamaged and correctly tensioned
 - cleaning machine at the end of a production run
 - checking that electrical systems are functioning, and identifying issues for referral to qualified electrician
 - completing maintenance documentation
- meet workplace standards for efficiency, including:
 - identifying and resolving routine problems
 - working with others, recognising dependencies and using cooperative approaches to optimise workflow and productivity.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- workplace procedures for:
 - work health and safety

- quality assurance and tolerance levels
- reporting of machinery faults and material defects
- risk control measures, including personal protective equipment (PPE), for the following hazards
 - cutting and crushing hazard
 - objects and particles thrown by machine
 - noise
 - airborne contaminants
 - slips, trips and falls
 - manual handling injuries
- functions of different types of sawing machines, including at least 4 of the following:
 - cross-cut saws
 - circular rip saws
 - sliding table panel saws and scroll-band saws
 - numerically controlled (NC) beam saws
 - wall saws
 - band re-saws and straight line edgers
- sawing processes and techniques including those for cutting simple and compound angles and freehand curves and undertaking deep, freehand and off-fence ripping
- characteristics and response to the machine sawing process of materials commonly used, including at least 4 of the following:
 - solid timber
 - manufactured board
 - laminates
 - plastics
 - acrylics
 - synthetic solids
- function of other tools and materials typically used in the sawing process
 - machine-specific tools
 - jigs and fixtures
 - machine consumables
 - oils and lubricants and trial materials.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
 - work documentation
 - unprocessed materials for sawing

- sawing machines (4 different types) and other tools and equipment required for performance evidence
- PPE
- workplace procedures.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

Companion Volume implementation guides are found in VETNet --

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0601ab95-583a-4e93-b2d4-cfb27b03ed73>

MSFFM3037 Set up, operate and maintain routing and shaping machines

Modification History

Release 1. Changes to code, application, elements, performance criteria, assessment requirements. Foundation skills added. Range of conditions removed. Assessment requirements changed.

Application

This unit describes the skills and knowledge required to safely and efficiently set up, operate and maintain routing and shaping machines using their full potential and capacities to complete tasks such as moulding, grooving, shaping and rebating materials. Workers with this competency follow established procedures in wood technology industries, using discretion, judgement and problem solving to identify and troubleshoot product and machine issues.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Competency Field

Wood machining

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Prepare for task	1.1 Determine task requirements and routing and shaping specifications from work documentation 1.2 Identify and follow work health and safety requirements 1.3 Select material for machining and check it meets task quality requirements 1.4 Check that cutting tools, jigs and other required tools and equipment are available, safe and functional 1.5 Identify procedures for waste minimisation and energy efficiency while completing task

2 Set up machines	<p>2.1 Check that emergency stops, gauges, guards, controls and safety equipment are functional prior to machine start-up</p> <p>2.2 Complete machine settings and adjust to meet task requirements in compliance with manufacturer instructions</p> <p>2.3 Complete trial runs to check that machine is fully functional and that finished work meets task accuracy and quality requirements</p> <p>2.4 Identify and make necessary adjustments to machine settings to meet task quality and efficiency requirements</p>
3 Operate machines	<p>3.1 Follow machine start-up procedures in accordance with manufacturer instructions</p> <p>3.2 Position material to be machined in accordance with manufacturer instructions, tooling requirements, and safe handling and workplace procedures</p> <p>3.3 Operate machine in accordance with its designed capacity and purpose, and to manufacturer recommendations</p> <p>3.4 Monitor machine operation to ensure product quality and output</p> <p>3.5 Identify items that do not meet quality requirements and recycle or discard in accordance with workplace procedures</p> <p>3.6 Recognise problems with product or machine operation and resolve or report to appropriate persons in accordance with workplace procedures</p>
4 Finalise task	<p>4.1 Clean work area, safely dispose of waste and identify items for recycling in accordance with workplace procedures and environmental standards</p> <p>4.2 Clean machinery, complete routine maintenance and leave in safe mode in accordance with workplace procedures</p> <p>4.3 Identify, tag and report faulty equipment in accordance with workplace procedures</p> <p>4.4 Complete task documentation in accordance with workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

- Reading skills to interpret familiar workplace procedures, work documentation involving drawings and product specifications
- Writing skills to communicate information in familiar workplace documents
- Numeracy skills to measure and calculate lengths, degrees and areas and estimate material requirements.

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSFFM3017 Set up, operate and maintain routing and shaping machines.

Links

Companion Volume implementation guides are found in VETNet – -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0601ab95-583a-4e93-b2d4-cfb27b03ed73>

Assessment Requirements for MSFFM3037 Set up, operate and maintain routing and shaping machines

Modification History

Release 1. Changes to code, application, elements, performance criteria, assessment requirements. Foundation skills added. Range of conditions removed. Assessment requirements changed.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and demonstrated the ability to:

- set up and operate a spindle moulding machine and an overhead or inverted pin routing machine to complete task requirements in accordance with workplace procedures
- complete operator maintenance on each of the 2 machines at least once, to include:
 - checking that guards, safety switches, and machine jigs and attachments are functioning correctly
 - servicing machine lubrication points
 - identifying tooling needing sharpening and repair
 - checking that drive belts are undamaged and correctly tensioned
 - cleaning machine at the end of a production run
 - checking that electrical systems are functioning, and identifying issues for referral to qualified electrician
 - completing maintenance documentation.
 -

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- workplace procedures for:
 - work health and safety
 - quality assurance and tolerance levels
 - reporting of machinery faults and material defects
- function and characteristics of routing and shaping machines:
 - spindle moulding machine
 - overhead or inverted pin routing machine
- routing and shaping processes and techniques
- characteristics and response to routing and shaping of materials commonly used:
 - solid timber

- manufactured board
- plastics
- laminates
- risk control measures, including personal protective equipment (PPE), for the following hazards
 - cutting and crushing hazard
 - objects and particles thrown by machine
 - noise
 - airborne contaminants
 - slips, trips and falls
 - manual handling injuries
- function of tools and materials typically used in the routing and shaping process:
 - machine-specific tools
 - jigs and fixtures
 - machine consumables
 - oils and lubricants and trial materials.
 -

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
 - work documentation
 - routing and shaping machines required for performance evidence
 - PPE
 - unprocessed materials for routing and shaping
 - workplace procedures.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

Companion Volume implementation guides are found in VETNet – -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0601ab95-583a-4e93-b2d4-cfb27b03ed73>

MSFGN2001 Make measurements and calculations

Modification History

Release 2. Supersedes and is equivalent to MSFGN2001 Make measurements and calculations, (Release 1).

Release 1. New unit of competency

Application

This unit of competency describes the skills and knowledge required to identify the measuring equipment required in work task, and make and record accurate measurements and calculations. It includes identifying and responding to routine and non-routine problems with the process.

The unit applies to any individual taking measurements and making calculations as part of their job role.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Unit Sector

Generic

Elements and Performance Criteria

Elements Elements describe the essential outcomes.	Performance Criteria Performance criteria describe the performance needed to demonstrate achievement of the element.	
1. Identify required measurements and equipment	1.1	Select measuring equipment suited to the task
	1.2	Identify measuring units to be used, and the level of detail required, from work documents
	1.3	Check condition and calibration of measuring equipment and confirm it is fit for purpose
2. Take measurements	2.1	Make justified estimate of range of results that may be

Elements Elements describe the essential outcomes.	Performance Criteria Performance criteria describe the performance needed to demonstrate achievement of the element.	
		obtained
	2.2	Identify and take account of external factors affecting measurement accuracy
	2.3	Take measurements using mathematical techniques suited to task
	2.4	Compare measurements against range of expected results
	2.5	Check accuracy and correctness of numerical information
	2.6	Record results to required level of detail
3. Carry out calculations	3.1	Identify measurement data to be used for calculations from work instructions
	3.2	Determine calculation methods and techniques suited to task
	3.3	Make justified estimate of range of quantities that may be obtained
	3.4	Carry out calculations and check accuracy of results
	3.5	Record results to required level of detail
4. Address routine and non-routine problems	4.1	Identify known faults that can occur during measurement activity
	4.2	Identify and take necessary action on causes of routine faults
	4.3	Log problems according to workplace procedures
	4.4	Identify and report non-routine problems to designated personnel

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria of this unit of competency.

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria of this unit of competency.

Oral communication skills to:	<ul style="list-style-type: none"> • communicate ideas and information, and report problems
Reading skills to:	<ul style="list-style-type: none"> • interpret familiar workplace documentation, including: • work instructions: job sheets, cutting lists, plans, drawings and designs • project plans and briefs • product and material specifications

Unit Mapping Information

Release 2. Supersedes and is equivalent to MSFGN2001 Make measurements and calculations (Release 1).

Release 1. New unit of competency.

Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0601ab95-583a-4e93-b2d4-cfb27b03ed73>

Assessment Requirements for MSFGN2001 Make measurements and calculations

Modification History

Release 2. Supersedes and is equivalent to MSFGN2001 Make measurements and calculations (Release 1).

Release 1. New unit of competency

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements, performance criteria, and foundation skills of this unit, which must include the ability to:

- work from specific project plans or briefs to accurately determine and cost the quantities of materials or products for a minimum of three different projects.

In the course of determining and costing the above projects, the person must:

- record estimation of results that may be obtained
- use measuring, calculating, and recording devices
- check and record results.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- purpose for measuring and calculating in workplace context
- mathematical principles and problem-solving strategies to make basic measurements and calculations
- uses and limitations of the following measuring equipment:
 - calculators
 - calipers
 - computers
 - laser or equivalent technology
 - rulers
 - squares
 - tapes measures
 - weighing scales
- workplace procedures and protocols relating to:
 - handling materials and products while undertaking measurement to minimise damage
 - recording and reporting outcomes of measurement and calculation
 - reporting non-routine problems
 - quality standards

- requirements of working with others in a team

Assessment Conditions

Assessment must occur in the workplace, or in a simulated environment that reflects workplace conditions and contingencies.

Access is required to:

- project plans and briefs
- measuring and calculating equipment specified in the knowledge evidence
- recording equipment required to demonstrate the performance evidence
- quality standards and enterprise procedures.

Assessors of this unit must satisfy the assessor requirements in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0601ab95-583a-4e93-b2d4-cfb27b03ed73>

MSL973022 Conduct laboratory-based acceptance tests for construction materials

Modification History

Release	Comments
Release 1	<p>This version was released in <i>MSL Laboratory Operations Training Package Release 2.0</i>.</p> <p>Supersedes and equivalent to MSL973010 Conduct laboratory-based acceptance tests for construction materials. Foundation skill information added. Range of conditions removed. Assessment requirements amended.</p>

Application

This unit of competency describes the skills and knowledge to conduct laboratory tests to confirm the acceptability of raw and/or manufactured construction materials. Personnel will have access to established test methods, workplace procedures and readily available advice. They are expected to obtain reliable test results safely and efficiently. In general, these personnel do not calibrate equipment and make only limited adjustments to the controls. The unit of competency does not cover interpretation or analysis of results or troubleshooting equipment problems.

This unit of competency applies to laboratory personnel working in the geotechnical and construction material testing industry sectors who conduct control and compliance tests in consulting laboratories or laboratories at extractive, manufacturing or construction sites using established test methods. These tests could involve aggregates, concrete, soils, road pavement or other specialised construction materials and products.

The unit of competency could also be relevant to laboratory technicians working in the water/wastewater and trade waste industry sectors.

No licensing or certification requirements exist at the time of publication. However, regulations and/or external accreditation requirements for laboratory operations exist, so local requirements should be checked. Relevant legislation, industry standards and codes of practice within Australia must also be applied.

Pre-requisite Unit

Nil

Competency Field

Testing

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1	Prepare for laboratory-based acceptance tests	<p>1.1 Access relevant job instructions from laboratory information management system (LIMS)</p> <p>1.2 Interpret test request to confirm samples to be tested, the test method and equipment involved</p> <p>1.3 Identify hazards and workplace controls associated with the sample, preparation methods, reagents and/or equipment</p> <p>1.4 Assemble all required equipment and materials</p> <p>1.5 Plan work sequences for optimum efficiency and/or throughput of multiple samples</p>
2	Prepare samples or test pieces	<p>2.1 Retrieve samples and/or test pieces from storage and record their general appearance</p> <p>2.2 Check the accuracy and completeness of accompanying labels and documentation to ensure traceability</p> <p>2.3 Check that the storage/curing conditions of samples and/or test pieces were appropriate</p> <p>2.4 Compare samples and/or test pieces with test specifications, record observations and report discrepancies</p> <p>2.5 Prepare samples and/or test pieces in accordance with appropriate test method</p>
3	Check test equipment before use	<p>3.1 Set up equipment in accordance with test method</p> <p>3.2 Perform pre-use and safety checks in accordance with workplace procedures</p>

- 3.3 Identify faulty or unsafe equipment and report to appropriate personnel
 - 3.4 Check calibration status of instruments and report any out-of-calibration items to appropriate personnel
- 4 **Perform laboratory tests**
 - 4.1 Conduct tests in accordance with test method and workplace procedures
 - 4.2 Record data and observations in accordance with workplace procedures
 - 4.3 Recognise obvious errors or atypical data and take appropriate corrective actions
 - 4.4 Perform calculations as set out in test method
 - 4.5 Compare calculated results with expected values and report atypical results promptly to appropriate personnel
 - 4.6 Complete technical/administrative records and test reports in accordance with workplace procedures
 - 4.7 Seek advice to deal with any situation beyond own technical competence
- 5 **Maintain a safe work environment**
 - 5.1 Use safe work procedures and personal protective equipment (PPE) to ensure personal safety and that of others
 - 5.2 Minimise generation of waste and environmental impacts of testing
 - 5.3 Collect and/or dispose of all waste in accordance with environmental/quarantine requirements and workplace procedures
 - 5.4 Care for and store equipment, used test pieces and back-up samples in accordance with workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

- Numeracy skills to estimate and accurately calculate simple scientific quantities, such as density and moisture content.

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

Equivalent to MSL973010 Conduct laboratory-based acceptance tests for construction materials, Release 1.

Links

MSL Laboratory Operations Companion Volume Implementation Guide is available from VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa>

Assessment Requirements for MSL973022 Conduct laboratory-based acceptance tests for construction materials

Modification History

Release	Comments
Release 1	<p>This version was released in <i>MSL Laboratory Operations Training Package Release 2.0</i>.</p> <p>Supersedes and equivalent to MSL973010 Conduct laboratory-based acceptance tests for construction materials. Foundation skill information added. Range of conditions removed. Assessment requirements amended.</p>

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- safely prepared at least 3 different laboratory samples or test pieces and conducted laboratory tests on them to confirm their acceptability
- safely conducted laboratory-based acceptance tests in accordance with workplace procedures and test methods to provide reliable data within the required timeframe.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- the purpose and principles of construction materials tests performed as part of job role and key preparation/measurement steps in the test methods
- the properties of construction materials under test
- calculation steps to give results in appropriate units and precision
- expected values for sample type and sources of uncertainty (and methods for control) in construction materials tests routinely used in job role
- workplace procedures for:
 - pre-use checks and operating test equipment routinely used in job role
 - recording and reporting test results, calculations, test observations, and unexpected or atypical results and equipment problems
 - ensuring traceability of samples, test pieces, test data and results
 - confidentiality
 - waste minimisation and safe disposal
 - sampling and testing procedures for specific sites, clients and samples
 - workplace safety

- awareness of environmental sustainability issues as they relate to the work task
- legal, ethical and workplace requirements specific to the work task.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
 - sample preparation and test equipment and materials specified in the test method
 - test methods and description of test set-up, data sets and records
 - calculator and/or computer and relevant software or laboratory information system.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

MSL Laboratory Operations Companion Volume Implementation Guide is available from VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa>

MSMOPS102 Perform tasks to support production

Modification History

Release 1. Supersedes and is equivalent to MSAPMOPS102A Perform tasks to support production

Application

This unit of competency covers the skills and knowledge required to perform tasks in support of the production process working under close supervision.

This competency applies to personnel who are not operating equipment but are making products or contributing to the production process through predominantly manual tasks. These tasks might be referred to as 'fetch and carry' type tasks.

This unit of competency applies to an individual working alone or as part of a team/work group and working in liaison with other shift team members and the control room operator, as appropriate. It might also apply to a more experienced operator working outside their field of expertise and under close supervision.

The competency applies to all sectors of the manufacturing industry.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Operations

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes

Performance criteria describe the performance needed to demonstrate achievement of the element

- | | | |
|---|--|---|
| 1 | Perform general duties and tasks | 1.1 Perform tasks as directed |
| | | 1.2 Ask questions of appropriate person to confirm unusual requirements |
| | | 1.3 Organise relevant equipment and tools and check to confirm good working condition |
| | | 1.4 Identify hazards and follow specified hazard controls |
| | | 1.5 Select and use personal protective equipment (PPE), where needed, in accordance with organisation procedures |
| 2 | Transfer, remove or supply materials/product where required | 2.1 Organise, confirm and record requests and tasks according to specified procedures |
| | | 2.2 Identify and organise appropriate equipment for transferring material where relevant |
| | | 2.3 Load and unload material using suitable aids |
| | | 2.4 Transfer/move material to the correct destination in a safe manner |
| 3 | Perform cleaning duties associated with role | 3.1 Clarify cleaning duties |
| | | 3.2 Determine, prepare and mix appropriate cleaning equipment and chemicals/detergents for specific tasks |
| | | 3.3 Follow procedures for handling and storage of cleaning liquids in accordance with organisation or manufacturer specifications |
| | | 3.4 Clean as required |
| 4 | Complete duties and reporting requirements | 4.1 Identify routine problems and take corrective actions, as required |
| | | 4.2 Complete reporting requirements in accordance with organisation procedures |

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Procedures All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form, and include one or more of the following:

- emergency procedures
- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- formulas/recipes
- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Tools and equipment

Tools and equipment include one or more of the following:

- cleaning equipment
- detergents and other chemicals
- simple hand and power tools
- hand trolleys pallet trucks

Note that production equipment and complex equipment, such as forklifts, overhead cranes or front-end loaders, are not covered by this unit.

Loading and unloading aids

Loading and unloading aids include equipment other than regulated load shifting equipment.

Loading and unloading aids must conform to materials handling requirements, safe work practices and manual handling techniques and workplace procedures.

Hazards

Hazards include one or more of the following:

- manual handling injuries
- slip/trip hazards
- smoke, darkness and heat
- heat, smoke, dust or other atmospheric hazards
- electricity
- gas
- gases and liquids under pressure
- structural hazards
- structural collapse
- equipment failures
- industrial (machinery, equipment and product)
- equipment or product mass
- noise, rotational equipment or vibration
- limited head spaces or overhangs
- working at heights, in restricted or confined spaces, or in environments subjected to heat, noise, dusts or vapours
- fire and explosion
- flammability and explosivity
- hazardous products and materials
- unauthorised personnel
- sharp edges, protrusions or obstructions
- slippery surfaces, spills or leaks
- extreme weather
- other hazards that might arise

Routine problems

Routine problems must be reported and corrective action taken according to relevant procedures.

Routine problems include one or more of the following:

- difficult access to the work area
- awkward work spaces
- tool failures or breakages
- defective equipment
- incorrect or defective materials
- wrong quantities of materials

Corrective actions Corrective actions include one or more of:

- reporting to an appropriate person
- taking action specified in the procedure

Appropriate personnel Appropriate personnel includes one or more of:

- supervisor
- more senior operator
- other designated personnel

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMOPS102A Perform tasks to support production

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027>

Assessment Requirements for MSMOPS102 Perform tasks to support production

Modification History

Release 1. Supersedes and is equivalent to MSAPMOPS102A Perform tasks to support production

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and must include the ability to:

- follow procedures to work safely, including:
 - selecting and using personal protective equipment (PPE)
 - locating and transporting materials and products
 - selecting and using equipment and tools
 - undertaking basic tasks to meet standards
 - identifying hazards and applying control measures
- clarify and confirm tasks and procedures
- recognise labels and signs
- identify routine problems and take corrective action, where appropriate
- complete forms and documentation.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- organisational procedures, including:
- safety, emergency and hazard control
- relevant organisation standard operating procedures (SOPs)
- hazards that may arise in the job/work environment, including:
 - their possible causes
 - potential consequences
 - appropriate risk controls
- types and application of PPE relevant to job/work environment
- safe handling of materials relevant to job
- types and application of equipment and criteria for determining good working condition
- routine problems that may arise in the job/work environment and corrective action appropriate to the problem cause
- reporting procedures.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence based on a holistic assessment of the evidence.
- The collection of performance evidence:
 - should occur over a range of situations which include typical disruptions to normal, smooth operations
 - must include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems
 - may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.
- Assessment should occur in operational workplace situations. Where this is not possible, or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment reflecting realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.
- Assessment in a simulated environment should use evidence collected from one or more of:
 - walk-throughs
 - pilot plant operation
 - demonstration of skills
 - industry based case studies/scenarios
 - ‘what ifs’.
- Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process, such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- As a minimum, assessors must satisfy the Standards for Registered Training Organisations 2015 assessor requirements.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027>

MSMOPS212 Use organisation computers or data systems

Modification History

Release 1. Supersedes and is equivalent to MSAPMOPS212A Use organisation computers or data systems

Application

This unit of competency covers the skills and knowledge required to use organisation computers or data systems in order to work effectively.

The operator will be required to select correct programs, save and retrieve data, and produce documents and spreadsheets relevant to operational or administrative functions within the organisation.

This unit of competency applies to an individual working alone or as part of a team/work group and working in liaison with other shift team members and the control room operator, as appropriate.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Operations

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes

Performance criteria describe the performance needed to demonstrate achievement of the element

- | | | | |
|---|-----------------|-----|---|
| 1 | Identify | 1.1 | Identify data and information available from the system |
|---|-----------------|-----|---|

	applications of computer or data system for work role		and its application to work role
		1.2	Identify data from work role which needs to be entered in the system
2	Use the computer or data system	2.1	Adjust workstation equipment to meet ergonomic requirements and use appropriate posture
		2.2	Log on according to procedures
		2.3	Navigate system
		2.4	Input data or make changes as required
		2.5	Check entered or edited data is correct
		2.6	Access required data/information
		2.7	Output data as required
		2.8	Apply system/security procedures
		2.9	Use 'Help' as needed
3	Save file and exit system	3.1	Identify the need to save data and, if required, save and store data in appropriate directory or folder
		3.2	Close file and/or exit applications programs without loss of data
		3.3	Back-up data if required in accordance with procedures
4	Respond to routine problems with the system	4.1	Recognise routine problems that occur during the operation
		4.2	Identify and take action on causes of routine problems
		4.3	Log problems as required
		4.4	Identify non-routine process and quality problems and take appropriate action

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Regulatory framework

The latest version of all legislation, regulations, industry codes of practice and Australian/international standards, or the version specified by the local regulatory authority, must be used, and include one or more of the following:

- legislative requirements, including work health and safety (WHS)
- privacy and intellectual property (IP)
- industry codes of practice and guidelines
- environmental regulations and guidelines
- Australian and other standards
- licence and certification requirements

Procedures

All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form, and include one or more of the following:

- organisation procedures relevant to data systems, data security, record keeping, privacy, internet usage and IP
- manufacturers' manuals
- emergency procedures
- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- formulas/recipes
- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the organisation

- Computers or data systems** Computers or data systems are used for one or more of the following:
- electronic documents (typically Word, Excel, email and similar)
 - safety, safety data and injury reporting
 - orders, purchasing, stock levels and scheduling
 - stock control, stores, warehousing and logistics
 - materials hazards, labelling, materials identification and material safety data sheets (MSDSs)
 - batch data, schedules, production planning and operations planning
 - product quality, statistical control, production trends and quality control
 - maintenance, maintenance planning, procedures and spare parts

- Equipment** Equipment includes one or more of the following:
- computers and stationary terminals/kiosks (stand alone and/or networked)
 - mobile terminals and handheld devices
 - smartphones and tablets
 - printers
 - mouse and keyboard
 - facsimile equipment
 - onboard terminals
 - scanners
 - bar coders

- Software applications** Software applications include one or more of the following:
- email
 - internet or intranet
 - word processing, database and/or spreadsheet programs
 - company/process-specific software

- Documents** Documents include one or more of the following:
- work orders
 - work instructions/SOPs
 - email
 - faxes
 - memos
 - tables
 - standard letters

- standard reports

Hazards

Hazards include one or more of the following:

- ergonomics and posture
- repetition strain injuries
- glare from monitor screens
- damaged cables or connections
- strains or injuries moving computer equipment
- other hazards that might arise in the job/work environment

Routine problems

Routine problems must be resolved by applying known solutions.

Routine problems are predictable and include one or more of:

- software problems, such as unable to access file, find correct page, send mail or input data
- loose or disconnected cables
- 'frozen' screens
- faulty monitors
- keyboard problems

Known solutions are drawn from one or more of:

- procedures
- training
- remembered experience

Non-routine problems must be reported according to relevant procedures.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMOPS212A Use organisation computers or data systems

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027>

Assessment Requirements for MSMOPS212 Use organisation computers or data systems

Modification History

Release 1. Supersedes and is equivalent to MSAPMOPS212A Use organisation computers or data systems

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and must include the ability to:

- use computers or data systems to locate and access information and/or data to meet job requirements
- edit information and/or input data electronically using one or more of:
 - keyboard
 - mouse
 - stylus
 - touchscreen
- check that edits/data entry are accurate and complete
- locate files (in file directory) or generate reports (within software) relevant to job
- apply procedures, as required, for:
 - log in/log out (and password protection)
 - back-up
 - security (e.g. anti-virus)
 - intellectual property (IP)/security
- apply known solutions to routine problems.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- organisational procedures, including those covering:
 - data systems and data security
 - record keeping
 - privacy
 - IP
 - use of internet
 - safety, emergency and hazard control
 - relevant organisation standard operating procedures (SOPs)
- ergonomics of using computers and related equipment

- scope and range of available data relevant to work role
- routine problems that may arise and how to identify causes
- types and application of software relevant to work role.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence:
 - should occur over a range of situations which include typical disruptions to normal, smooth operations and provide for demonstration of responding to problems
 - will typically include a supervisor/third-party report focusing on consistent performance and problem recognition and solving. A supervisor/third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency
 - must include the use of appropriate tools, equipment, data and documentation
 - may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.
- Assessment should occur in operational workplace situations. Where this is not possible, or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment reflecting realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.
- Assessment in a simulated environment should use evidence collected from one or more of:
 - walk-throughs
 - pilot plant operation
 - demonstration of skills
 - industry based case studies/scenarios
 - ‘what ifs’.
- Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process, such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- The regulatory framework will be reflected in workplace policies and procedures and is not required to be independently assessed.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.

- As a minimum, assessors must satisfy the Standards for Registered Training Organisations 2015 assessor requirements.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027>

MSMPCI102 Apply effective work practices

Modification History

Release 1. Supersedes and is equivalent to MSAPCI102A Apply effective work practices

Application

This unit of competency covers the knowledge and skills needed to apply effective work practices in an industry. It includes planning, organising and completing work, communicating effectively, working with others, solving problems and adapting to change.

This unit applies to learners seeking practical skills that are relevant and useful to the area in which the learner hopes to gain employment, is currently working, and/or as a pathway to further study.

This unit applies to a learning and assessment environment where access to normal production operations is not available. Typically this will be a VET in Schools delivery environment but it may be another simulated or trial manufacturing environment where a high degree of supervision exists. Students may be on work placement.

This unit has application in qualifications for all occupations in the manufacturing industry and it should be regarded as an integrating unit. When delivered/assessed as part of a qualification, this unit must be customised to ensure its relevance to real or simulated work activities and related workplaces.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Manufacturing pathways

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes

Performance criteria describe the performance needed to demonstrate achievement of the element

1	Plan, organise and complete daily work	1.1	Identify and interpret work instructions and priorities in consultation with supervisor
		1.2	Determine and map out an appropriate work plan or daily routine
		1.3	Determine, collect and organise materials, resources and information needed to complete work, including work health and safety (WHS) requirements
		1.4	Complete work tasks within designated timelines, quality standards and instructions
2	Communicate effectively	2.1	Identify appropriate lines of communication with supervisors, colleagues and customers
		2.2	Use effective communication skills and numeracy skills to gather and convey information
		2.3	Demonstrate appropriate non-verbal behaviour and communication
3	Work with others	3.1	Identify work roles of self and others in the workplace
		3.2	Undertake individual responsibilities and duties in a positive manner and in a range of situations to promote cooperation and good relationships
		3.3	Respect customers and colleagues who have diverse backgrounds
4	Use workplace technology	4.1	Select appropriate workplace technology and use according to workplace and manufacturer guidelines and instructions

- | | | | |
|---|---------------------|-----|--|
| | | 4.2 | Inspect workplace technology is to ensure it is not damaged and is working properly and take precautions to reduce risks |
| | | 4.3 | Take appropriate action when problems with workplace technology occur |
| | | 4.4 | Care for workplace technology according to workplace and manufacturer guidelines and instructions |
| 5 | Solve work problems | 5.1 | scope of individual responsibility to rectify them |
| | | 5.2 | Ask for assistance from key personnel when appropriate |
| | | 5.3 | Report workplace problems, as required, using appropriate workplace procedures |
| 6 | Adapt to change | 6.1 | Identify, clarify and adapted to new work requirements or situations |
| | | 6.2 | Consider and apply possible practical or creative options to deal with workplace challenges |
| | | 6.3 | Demonstrate a willingness to be open to and trial new ideas and techniques |

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Work instructions Work instructions include one or more of the following:

- job sheets
- patterns
- plans
- drawings
- designs
- verbal directions
- customer orders

Effective communication skills

Effective communication skills include one or more of the following:

- listening and understanding
- speaking clearly and directly
- reading independently
- writing to audience needs
- group interaction
- the chain of command in which to report
- questioning to obtain information and/or clarify information and understanding
- routine oral reporting
- routine written reporting
- participation in routine meetings in the workplace
- basic recording of discussions

Numeracy skills

Numeracy skills are those which related to the job or specific task and involve the operations of multiplication, division, addition, subtraction, percentages and/or fractions, and include those related to one or more of the following:

- estimates of the quantities of materials and resources required to complete a work task
- money (e.g. cost, invoices and change)
- volume
- weight
- time
- length and distance
- speed
- area
- perimeter

Diverse backgrounds

Diverse backgrounds include, but are not limited to, one or more of the following:

- ages
- genders
- culture
- personal values or beliefs
- race
- religion
- political persuasion

Workplace technology

Workplace technology includes one or more of the following:

- business equipment, such as fax machines, telephones, photo copiers, cutting machines, cameras and voice recorders
- computer technology, such as laptops, PCs, digital cameras, zip drives, modems, scanners and printers
- other technology, such as machinery, hand tools, lifts and security systems

Workplace technology precautions

Workplace technology precautions include, one or more of the following:

- routine checking of equipment
- regular back-ups of data
- keeping a log book of detected faults
- checking that repairs have been carried out
- using appropriate clothing

Appropriate actions Appropriate actions include one or more of the following:

- contacting a supervisor, manager
- contacting the manufacturer
- contacting a service provider
- reporting and documenting the problem

Key personnel

Key personnel include one or more of the following:

- supervisor
- manager
- fellow colleagues
- team members

Workplace

Workplace procedures include, but are not limited to, one or more of

procedures

the following:

- organisational policies and guidelines
- common organisational practice
- performance plans
- WHS policies, procedures and programs
- relevant legislative requirements in areas such as WHS, privacy, anti-discrimination, environmental protection and trade practices
- relevant licence requirements and related regulations

Work instructions

Work instructions include one or more of the following:

- job sheets
- patterns
- plans
- drawings
- designs
- verbal directions
- customer orders

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPCI102A Apply effective work practices

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027>

Assessment Requirements for MSMP CI102 Apply effective work practices

Modification History

Release 1. Supersedes and is equivalent to MSAPCI102A Apply effective work practices

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria, and demonstrate the ability to:

- plan a daily routine to complete required workplace tasks
- follow workplace work health and safety (WHS) and environmental protection procedures and responsibilities
- apply relevant workplace procedures, policies, instructions and regulations
- identify and correctly use equipment, tools and other technology required to complete workplace tasks
- complete work systematically with required time management and attention to detail without damage to goods, equipment or personnel
- complete work activities in collaboration with others in accordance with instructions, procedures and applicable regulations
- work cooperatively and collaboratively with others to complete tasks
- apply relevant ethical practices and codes of practice in the course of work activities
- recognise limitations, ask for help and seek clarification or information about work requirements and procedures
- take prompt action to report and/or rectify any workplace problems in accordance with workplace procedures
- recognise and adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions among staff and others
- use literacy skills in regard to written and verbal communication in the workplace
- use basic interpersonal and communication skills, including listening and questioning and receiving feedback
- adapt and modify activities depending on differing workplace contexts and environment
- carry out calculations that are required when completing work tasks, including the four basic mathematical operations
- keep required records of workplace activities
- apply relevant industrial or other legislative requirements.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- workplace procedures, policies and instructions

- workplace structures and the roles and responsibilities of individuals and team/group members
- typical problems in the workplace and appropriate action and solutions
- systems and equipment used in the workplace and the instructions, processes and precautions for their use
- basic principles of teamwork in the workplace.

Assessment Conditions

- Assessment must occur in a simulated environment or a workplace.
- This unit must always be assessed in holistically in conjunction with other units of competency that form part of a specified job function. Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Performance must be demonstrated consistently over a period of time and for a range of manufacturing contexts.
- Assessors must:
 - as a minimum, satisfy the Standards for Registered Training Organisations 2015 assessor requirements
 - have vocational competency in the manufacturing industry at least to the level being assessed, with broad industry knowledge and experience, usually combined with a relevant industry qualification
- be familiar with the current skills and knowledge used and have relevant, current experience in the manufacturing industry.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027>

MSMSUP200 Achieve work outcomes

Modification History

Release 1. Supersedes and is equivalent to MSAPMSUP200A Achieve work outcomes

Application

This unit of competency covers the skills and knowledge required to identify and implement actions to achieve workplace targets and to suggest ways to improve processes.

This unit of competency applies to personnel who are required to achieve quality standards and productivity targets within the scope of own job.

This unit of competency applies to an individual working alone or as part of a team or group and working in liaison with other team members and supervisors.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Support

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes

Performance criteria describe the performance needed to demonstrate achievement of the element

1	Identify key aspects of the process	1.1	Outline the properties of materials/components used in the process
		1.2	Describe the process relevant to own work area

- | | | | |
|---|--|-----|---|
| | | 1.3 | Identify the safety and environmental requirements relevant to this process |
| | | 1.4 | State aspects of this process which require careful monitoring |
| 2 | Implement actions to achieve targets | 2.1 | Identify production targets for own work area and work role |
| | | 2.2 | Describe techniques used to measure performance against workplace targets/standards |
| | | 2.3 | Identify factors impacting on achieving targets |
| | | 2.4 | Identify potential inefficiencies in the process |
| | | 2.5 | Achieve work outcomes |
| 3 | Participate in an improvement activity in accordance with organisation procedures | 3.1 | Investigate a problem |
| | | 3.2 | Identify likely causes of problem |
| | | 3.3 | Suggest options for improvement |
| | | 3.4 | Discuss a proposed improvement with appropriate people |

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Regulatory framework The latest version of all legislation, regulations, industry codes of practice and Australian/international standards, or the version specified by the local regulatory authority, must be used, and include one or more of the following:

- legislative requirements, including work health and safety (WHS)
- industry codes of practice and guidelines
- environmental regulations and guidelines
- Australian and other standards
- licence and certification requirements

Procedures All operations must be performed in accordance with relevant procedures. Procedures are written, verbal, visual, computer-based or in some other form, and include one or more of the following:

- emergency procedures
- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- formulas/recipes
- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Routine problems Routine problems must be resolved by applying known solutions.

Routine problems are predictable and include one or more of the following:

- non-routine process and quality problems
- equipment selection, availability and failure
- teamwork and work allocation problems
- safety and emergency situations and incidents

Known solutions are drawn from one or more of:

- procedures
- training
- remembered experience

Non-routine problems must be reported according to according to relevant procedures.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMSUP200A Achieve work outcomes

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027>

Assessment Requirements for MSMSUP200 Achieve work outcomes

Modification History

Release 1. Supersedes and is equivalent to MSAPMSUP200A Achieve work outcomes

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and must include the ability to:

- identify workplace targets and performance measures
- identify and minimise inefficiencies
- identify and control hazards
- work to achieve targets
- apply known solutions to routine problems
- participate in process improvement teams/activities.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- organisation procedures, including relevant standard operating procedures (SOPs)
- potential sources of wastage/production inefficiencies
- process, normal operating parameters and product quality to recognise non-standard situations
- criteria for evaluating and selecting improvements, including:
 - benefits
 - costs
 - safety implications
 - limitations of equipment, process and materials.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence based on a holistic assessment of the evidence.
- The collection of performance evidence:
 - should occur over a range of situations which include typical disruptions to normal, smooth operations

- will typically include a supervisor/third-party report focusing on consistent performance and problem recognition and solving. A supervisor/third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency
- must include participation in an improvement activity which provides sufficient evidence of the requirements of all the elements and performance criteria
- may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.
- Assessment should occur in operational workplace situations. Where this is not possible, or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment reflecting realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.
- Assessment in a simulated environment should use evidence collected from one or more of:
 - walk-throughs
 - pilot plant operation
 - demonstration of skills
 - industry based case studies/scenarios
 - ‘what ifs’.
- Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process, such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- The regulatory framework will be reflected in workplace policies and procedures and is not required to be independently assessed.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- As a minimum, assessors must satisfy the Standards for Registered Training Organisations 2015 assessor requirements.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027>

MSMSUP230 Monitor process operations

Modification History

Release 1. Supersedes and is equivalent to MSAPMSUP230A Monitor process operations

Application

This unit of competency covers the skills and knowledge required to monitor production processing equipment and take appropriate action.

This unit of competency applies to operators who are required to identify the job requirements, monitor production processing equipment, monitor the job to maintain safety and quality, and identify and take action on problems.

This unit of competency applies to an individual working alone or as part of a team or group and working in liaison with other shift team members and the control room operator, as appropriate.

This competency applies to the monitoring of various forms of production equipment in all work environments and sectors within the process manufacturing industry. It includes the monitoring of all ancillary tools and equipment.

Where operation of the equipment is required, the appropriate operational unit from MSM, PMA, PMB or PMC should be used.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Support

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes

Performance criteria describe the performance needed to demonstrate achievement of the element

1	Identify scope of work in accordance with procedures	1.1	Identify own work requirements
		1.2	Check procedures to identify operating parameters and approved adjustments
		1.3	Establish actions to be used in the event of faulty production
		1.4	Identify procedures for obtaining materials for the process
		1.5	Identify hazards and environmental issues relevant to own job
2	Get ready for work/job	2.1	Assemble ancillary tools and equipment
		2.2	Identify inspection procedures
		2.3	Identify any finishing activities
		2.4	Identify and implement hazard controls
		2.5	Establish the location and function of equipment emergency stops and ensure guards are in place
		2.6	Identify and note requirements for checking materials inputs and outputs; ancillary supplies and equipment; and product quality requirements for the relevant process stage
3	Maintain operations in accordance with procedures	3.1	Check process operations, noting product quality, production outputs and waste
		3.2	Check product for conformity to specification, make adjustments to the equipment, where appropriate, and store product

- | | | |
|---|---------------------------------------|--|
| | 3.3 | Collect material which is able to be reprocessed and reused, and deal with waste and scrap |
| | 3.4 | Use the quality control system |
| | 3.5 | Clean up equipment and work area and manage waste. |
| 4 | Identify product quality requirements | 4.1 Monitor process and note conditions which may affect product quality standards |
| | | 4.2 Report process variations within workplace procedures |
| | | 4.3 Note and implement authorised changes in procedures and specifications |

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Tools and equipment

Tools and equipment include one or more of the following:

- hand carts and trolleys
- knives and other bag opening equipment
- hoists/lifting equipment not requiring any special permits or licences
- basic hand tools required for opening of material packaging
- relevant personal protective equipment (PPE)

Hazards

Hazards include one or more of the following:

- automated or rotating equipment

- manual handling hazards
- knife hazards
- equipment failures
- industrial (machinery, equipment and product)
- noise, rotational equipment or vibration
- hazardous products and materials
- unauthorised personnel
- sharp edges, protrusions or obstructions
- slippery surfaces, spills or leaks
- other hazards that might arise

Routine problems Routine problems must be resolved by applying known solutions.

Routine problems are predictable and include one or more of the following:

- process problems, such as:
 - equipment malfunctions
 - product jamming or sticking
 - power failures
 - air, oil or lubricant difficulties
- product problems, such as:
 - variations in materials
 - contamination of materials
 - malformed or incomplete products

Known solutions are drawn from one or more of the following:

- procedures
- training
- remembered experience

Non-routine problems must be reported according to according to relevant procedures.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMSUP230A Monitor process operations

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027>

Assessment Requirements for MSMSUP230 Monitor process operations

Modification History

Release 1. Supersedes and is equivalent to MSAPMSUP230A Monitor process operations

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and demonstrate the ability to:

- read and interpret product specifications, job sheets, procedures, material labels and safety information to identify:
 - operating procedures
 - equipment controls and adjustment parameters
 - inspection procedures and quality requirements
 - hazard minimisation procedures
 - finishing requirements
 - sourcing of materials
 - action to be taken in response to faulty production from operating procedures
- monitor production outputs and product quality and make adjustments to equipment as required and within parameters
- apply known solutions to routine problems
- report process variations
- identify hazards and apply relevant hazard controls.

Knowledge Evidence

- Evidence must be provided that demonstrates knowledge of:
- organisation procedures, including:
 - safety, emergency and hazard control
 - relevant procedures
 - quality assurance/quality control
- hazards that may arise in the job/work environment, including:
 - their possible causes
 - potential consequences
 - appropriate risk controls
 - types and application of personal protective equipment (PPE) in relation to job/work environment
- work flow sequences and materials demand.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence based on a holistic assessment of the evidence.
- The collection of performance evidence:
 - should occur over a range of situations which include typical disruptions to normal, smooth operations
 - will typically include a supervisor/third-party report focussing on consistent performance and problem recognition and solving. A supervisor/third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency
 - must include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems
 - may use industry-based simulation, particularly where safety, lack of opportunity or significant cost is an issue, for part only of the unit, such as using deliberately created product faults for assessing the checking of product for conformity to specification.
- Assessment should occur in operational workplace situations. Where this is not possible, or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment reflecting realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.
- Assessment in a simulated environment should use evidence collected from one or more of:
 - walk-throughs
 - pilot plant operation
 - demonstration of skills
 - industry based case studies/scenarios
 - ‘what ifs’.
- Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process, such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- The regulatory framework will be reflected in workplace policies and procedures and is not required to be independently assessed.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- As a minimum, assessors must satisfy the Standards for Registered Training Organisations 2015 assessor requirements.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027>

MSMSUP240 Undertake minor maintenance

Modification History

Release 2. Equivalent. Range of conditions removed. Duplication between Performance Evidence and Performance Criteria removed. Assessment conditions updated.

Release 1. Supersedes and is equivalent to MSAPMSUP240A Undertake minor maintenance.

Application

This unit describes the skills and knowledge required to undertake minor maintenance and solve routine problems to procedures. Minor maintenance can include operational maintenance, general cleaning, part removal and part replacement and other activities that do not require a trade qualification.

This unit applies to an individual working alone or as part of a team or group and working in liaison with other shift team members and the control room operator, as appropriate.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must also be applied.

Pre-requisite Unit

Nil

Unit Sector

Support

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Identify maintenance requirements	1.1 Identify equipment variations and/or irregularities using observed data and plant records 1.2 Assess the urgency and priority of the situation 1.3 Identify appropriate corrective action 1.4 Identify correct tools and materials 1.5 Assess the impact of the maintenance activity and communicate to

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	appropriate personnel 1.6 Identify hazards and risk controls 1.7 Identify work permit requirements
2. Prepare for maintenance activity	2.1 Ensure equipment is turned off and isolated according to procedures 2.2 Clear the area of obstructions and hazardous materials 2.3 Obtain appropriate tools, parts, materials and procedures 2.4 Obtain the appropriate work permits and adhere to the requirements 2.5 Communicate the impending maintenance activity to the appropriate personnel
3. Perform maintenance activity	3.1 Access all relevant information 3.2 Undertake maintenance activity according to procedures 3.3 Use tools and maintenance techniques correctly 3.4 Restore equipment to normal working condition 3.5 Leave the work area in a clean and safe condition 3.6 Ensure permits are signed-off as appropriate
4. Test equipment	4.1 Test equipment according to procedures 4.2 Return equipment to service 4.3 Ensure equipment meets normal operating requirements
5. Record maintenance activity	5.1 Complete maintenance logs and/or plant history records 5.2 Report maintenance activity to relevant personnel 5.3 Identify and report outstanding maintenance requirements to relevant personnel

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 2. Supersedes and is equivalent to MSAPMSUP240A Undertake minor maintenance.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027>

Assessment Requirements for MSMSUP240 Undertake minor maintenance

Modification History

Release 2. Equivalent. Range of conditions removed. Duplication between Performance Evidence and Performance Criteria removed. Assessment conditions updated.

Release 1. Supersedes and is equivalent to MSAPMSUP240A Undertake minor maintenance.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- undertaken at least 1 minor maintenance activity, including:
 - using available data and records to recognise fault and no-fault conditions in standard and non-standard situations
 - applying operational guidelines and known solutions to correct variations and/or irregularities
 - applying approved hazard control, work permit and safety procedures.
 -

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- principles of operation of the equipment to be maintained
- function and troubleshooting of major internal components and their problems
- appropriate testing procedures and use of equipment for a range of equipment faults
- typical causes of equipment failures and the service conditions which may increase maintenance
- types and nature of maintenance (preventative, predictive, corrective) uses, benefits and limitations
- factors that may affect product quality or production output and appropriate remedies.
-

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:

- maintenance documentation, guidelines, procedures and schedules, including data and plant records
- maintenance tools and equipment, including personal protective equipment (PPE).

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027>

MSMSUP291 Participate in continuous improvement

Modification History

Release 1. Supersedes and is equivalent to MSAPMSUP291A Participate in continuous improvement

Application

This unit of competency covers the skills and knowledge required to identify areas of improvement and work with colleagues to implement the changes.

It applies to operators who are required to contribute to continuous improvement of work processes by applying knowledge of customers and suppliers to identify improvements and to select and implement improvements.

This unit of competency applies to an individual working as part of a team/work group.

This unit of competency applies to all work environments and sectors within the industry.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Support

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes

Performance criteria describe the performance needed to demonstrate achievement of the element

- | | | |
|---|---|---|
| 1 | Identify customers and suppliers | <ul style="list-style-type: none"> 1.1 Identify internal and external customers and suppliers 1.2 Identify requirements of individual customers 1.3 Identify own role in meeting customer requirements |
| 2 | Identify areas for improvement | <ul style="list-style-type: none"> 2.1 Identify issues affecting output and quality 2.2 Identify instances of variation 2.3 Follow procedures for reporting and managing variations 2.4 Record non-conformance in accordance with company requirements |
| 3 | Identify strategies for improvement | <ul style="list-style-type: none"> 3.1 Identify areas for improvement 3.2 Use information on variation to develop improvement suggestions 3.3 Use relevant quality tools and techniques for identifying causes of variation and areas for improvement 3.4 Suggest options for improvement 3.5 Discuss a proposed improvement with others in a team |
| 4 | Participate in a team to implement an improvement proposal | <ul style="list-style-type: none"> 4.1 Implement changes in system and procedures 4.2 Monitor performance improvements 4.3 Evaluate results of improvements with others in a team |

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Procedures

All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form, and include one or more of the following:

- emergency procedures
- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- formulas/recipes
- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Opportunities for improvement

Opportunities for improvement include one or more of the following:

- an unintended occurrence or outcome
- product faults and faulty products
- excessive variation
- trends
- waste (muda)
- improving process capability
- improving process efficiency
- improving health safety and environment (HSE) outcomes
- reducing cost/lifecycle cost

Quality tools and techniques

Quality tools and techniques include one or more of the following:

- controls charts (statistical process control)
- cause-effect diagrams
- check sheets

- histograms/Pareto charts
- scatter diagrams
- stratification
- flow charts

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMSUP291A Participate in continuous improvement

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027>

Assessment Requirements for MSMSUP291 Participate in continuous improvement

Modification History

Release 1. Supersedes and is equivalent to MSAPMSUP291A Participate in continuous improvement

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and demonstrate the ability to:

- identify relationship of own role to the needs of internal and external customers and suppliers
- identify variations and non-conformances
- follow procedures for reporting and managing variations and non-conformances
- communicate and work with others to:
 - analyse areas of variations and non-conformances to identify causes and develop strategies for improvements
 - implement changes to systems and procedures
 - evaluate whether changes have achieved improvements
- interpret quality data and graphs.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- the use of information in developing improvements
- types and application of analytical problem-solving techniques
- organisation processes and approvals for making changes to systems and procedures
- quality tools and techniques.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence based on a holistic assessment of the evidence.
- The collection of performance evidence:
 - should occur over a range of situations which include typical disruptions to normal, smooth operations

- will typically include a supervisor/third-party report focusing on consistent performance and opportunity for improvement recognition and resolution. A supervisor/third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency
- must include the use of appropriate quality tools
- may use industry-based simulation for part only of the unit (typically implementation) particularly where safety, lack of opportunity or significant cost is an issue.
- Assessment should occur in operational workplace situations. Where this is not possible, or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment reflecting realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.
- Assessment in a simulated environment should use evidence collected from one or more of:
 - walk-throughs
 - pilot plant operation
 - demonstration of skills
 - industry-based case studies/scenarios
 - ‘what ifs’.
- Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process, such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- As a minimum, assessors must satisfy the Standards for Registered Training Organisations 2015 assessor requirements.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027>

MSMSUP292 Sample and test materials and product

Modification History

Release 1. Supersedes and is equivalent to MSAPMSUP292A Sample and test materials and product

Application

This unit of competency covers the skills and knowledge required to take routine samples and conduct simple tests.

This unit of competency applies to operators who are required to take samples in the workplace, perform a narrow range of simple tests and interpret the results and take specified action based on those results.

It applies to simple, routine tests to procedure which will typically be done in the workplace or in a 'factory laboratory' (or bench) adjacent to or within the factory.

This unit of competency is typically performed by operators working either independently or as part of a work team.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Support

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes

Performance criteria describe the performance needed to demonstrate achievement of the element

- | | | |
|---|-----------------------------------|--|
| 1 | Take sample | 1.1 Determine type of sample and sampling equipment required |
| | | 1.2 Check sampling equipment is clean and in good order |
| | | 1.3 Take sample of required type, from the required place and at the required time and place in required container |
| | | 1.4 Label sample to procedure |
| | | 1.5 Carry sample to required place |
| 2 | Complete test | 2.1 Check test required from procedures |
| | | 2.2 Check sample identification and integrity |
| | | 2.3 Check test equipment is clean, in good order and within calibration |
| | | 2.4 Complete test required in accordance with standard procedures/instructions |
| 3 | Interpret results and take action | 3.1 Note anything about sample, equipment or the test itself which may have caused it to give a bad result |
| | | 3.2 Compare results to specification |
| | | 3.3 Take action appropriate to the test results and any other observations |
| 4 | Complete sample and test cycle | 4.1 Complete required records |
| | | 4.2 Store and/or dispose of sample as required |
| | | 4.3 Clean all equipment and leave ready for next sample/test |

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Regulatory framework The latest version of all legislation, regulations, industry codes of practice and Australian/international standards, or the version specified by the local regulatory authority, must be used, and include one or more of the following:

- legislative requirements, including work health and safety (WHS)
- industry codes of practice and guidelines
- environmental regulations and guidelines
- Australian and other standards
- licence and certification requirements

Procedures All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form, and include one or more of the following:

- test methods
- sampling techniques
- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- emergency procedures
- formulas/recipes
- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMSUP292A Sample and test materials and product

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027>

Assessment Requirements for MSMSUP292 Sample and test materials and product

Modification History

Release 1. Supersedes and is equivalent to MSAPMSUP292A Sample and test materials and product

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and must include the ability to:

- undertake collection and processing of sample
- select and use appropriate procedures
- undertake tests with adequate reproducibility
- check and clean equipment
- recognise suspicious test results caused by sampling/testing faults
- compare results to specifications and take appropriate action as defined in relevant procedures
- complete workplace forms, label samples and record results.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- relevant procedures
- specifications for test results
- types and application of sample techniques and their requirements
- types and application of test methods and critical factors leading to good/poor test results

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence based on a holistic assessment of the evidence.
- The collection of performance evidence:
 - should occur over a range of situations which include typical disruptions to normal, smooth operations
 - will typically include a supervisor/third-party report focusing on consistent performance and problem recognition and solving. A supervisor/third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency
 - must include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems

- may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.
- Assessment should occur in operational workplace situations. Where this is not possible, or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment reflecting realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.
- Assessment in a simulated environment should use evidence collected from one or more of:
 - walk-throughs
 - pilot plant operation
 - demonstration of skills
 - industry-based case studies/scenarios
 - ‘what ifs’.
- Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process, such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- The regulatory framework will be reflected in workplace policies and procedures and is not required to be independently assessed.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- As a minimum, assessors must satisfy the Standards for Registered Training Organisations 2015 assessor requirements.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027>

MSMSUP303 Identify equipment faults

Modification History

Release 1. Supersedes and is equivalent to MSAPMSUP303A Identify equipment faults

Application

This unit of competency covers the skills and knowledge required to plan and carry out checks to identify and deal with equipment faults and to determine solutions.

This unit of competency applies to experienced personnel, such as experienced operators, team leaders or supervisors, who are required to apply knowledge of materials, product purpose and processes to identify and deal with routine and non-routine faults in equipment, propose solutions, carry out solutions within scope of authority and competence and complete logs and reports.

This unit of competency applies to an individual working alone or as part of a team or group and working in liaison with other shift team members and the control room operator, as appropriate.

This unit of competency applies to all work environments and sectors within the industry. It does not include maintenance that would require trade-level skills. It is not intended that this competency would cover maintenance that is carried out in a workshop.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Support

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes

Performance criteria describe the performance needed to demonstrate achievement of the element

1	Identify scope of operational check	<p>1.1 Identify and classify equipment components and operating systems</p> <p>1.2 Match appropriate checks and procedures to the equipment operating systems</p> <p>1.3 Identify special checking procedures and parameters in manufacturer specifications and procedures</p> <p>1.4 Identify sources of information and data relevant to key variables</p> <p>1.5 Identify and control hazards</p> <p>1.6 Observe and undertake checks on the physical condition of equipment in accordance with procedures</p> <p>1.7 Record preliminary observations</p> <p>1.8 Discuss checking procedures with appropriate personnel and obtain necessary permission where required</p>
2	Plan operational checks	<p>2.1 Check specifications and notes from preliminary observations and identify areas to be clarified</p> <p>2.2 Plan sequence for checks, noting areas where results and observations should be recorded</p> <p>2.3 Ensure area is safe for operational check</p> <p>2.4 Make arrangements for any additional resources, including other employees</p>
3	Check unit through full	<p>3.1 Undertake operational checks observing relevant safety and operational requirements</p>

	operational range	3.2	Confirm results and findings
		3.3	Identify faults to be dealt with
4	Identify faults and formulate recommendations	4.1	Identify impact of faults on work schedule
		4.2	Record proposals for equipment repair based on faults found, cost/time implications and workplace approval systems
		4.3	Explain proposals to relevant workplace personnel, including any options and recommendations
		4.4	Take appropriate action to return equipment to full operation in accordance with procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Regulatory framework

The latest version of all legislation, regulations, industry codes of practice and Australian/international standards, or the version specified by the local regulatory authority, must be used, and include one or more of the following:

- legislative requirements, including work health and safety (WHS)
- industry codes of practice and guidelines
- environmental regulations and guidelines
- Australian and other standards
- licence and certification requirements

Procedures All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form, and include one or more of the following:

- emergency procedures
- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- formulas/recipes
- batch sheets
- temporary instructions
- plant description manuals
- manufacturer instructions and specifications
- service manuals
- machine circuit diagrams for hydraulic/pneumatic and electrical/electronic circuits
- any similar instructions provided for the smooth running of the plant

Tools and equipment

Tools and equipment include one or more of the following:

- hand tools specific for the task
- product testing equipment (e.g. flowmeter, scales, tape measure, micrometer, calliper and ultrasonic thickness)
- equipment checking equipment (e.g. vibration meter, tachometer, current tester, thermal imaging and temperature gauge)

Hazards

Hazards include one or more of the following:

- rotating and moving machinery
- process materials, solids, fluids and gases under pressure or flowing
- temporary connections or by-passes
- electrical, hydraulic or pneumatic energy sources
- out-of-specification operation
- smoke, darkness and heat
- heat, smoke, dust or other atmospheric hazards
- electricity
- gas
- gases and liquids under pressure
- structural hazards
- structural collapse
- equipment failures

- industrial (machinery, equipment and product)
- equipment or product mass
- noise, rotational equipment or vibration
- limited head spaces or overhangs
- working at heights, in restricted or confined spaces, or in environments subjected to heat, noise, dusts or vapours
- fire and explosion
- flammability and explosivity
- hazardous products and materials
- unauthorised personnel
- sharp edges, protrusions or obstructions
- slippery surfaces, spills or leaks
- extreme weather
- other hazards that might arise

Faults

Faults may arise from routine and non-routine causes and must be resolved by applying operational knowledge to apply existing, or develop new solutions, either individually or in collaboration with relevant experts to:

- determine faults needing action
- determine possible fault causes
- develop solutions to faults which do not have a known solution
- follow through items initiated until final resolution has occurred
- report faults outside area of responsibility/expertise to designated person

Non-routine faults are unexpected faults, or variations of previous faults and are associated with one or more of the following:

- out-of-specification product or variations
- response of equipment to materials variations
- new or changed materials
- changed equipment settings (e.g. higher speed or throughput)
- equipment breakdown or in need of maintenance

Operational knowledge includes one or more of the following:

- procedures
- training
- technical information such as journals, engineering specifications
- remembered experience
- relevant knowledge obtained from appropriate people

Variables Key variables to be monitored include one or more of the following:

- equipment performance (e.g. speed, output and variations)
- equipment component performance
- sequences and timing of operations
- materials changes (desired and not desired)

Sources of information and data Sources of information and data include one or more of the following:

- plant data
- log sheets
- operational and performance reports
- physical aspects, such as noise, smell, feel and pressure condition monitoring information
- planned maintenance schedules
- procedures

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSAPMSUP303A Identify equipment faults

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027>

Assessment Requirements for MSMSUP303 Identify equipment faults

Modification History

Release 1. Supersedes and is equivalent to MSAPMSUP303A Identify equipment faults

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and must include the ability to:

- check and identify a fault within an item of equipment/plant
- ensure workplace is safe for checking and maintenance of equipment
- communicate effectively with personnel and all levels
- evaluate the impact of fault in terms of work schedule, cost/time and approvals needed and make recommendations for repairs
- apply operational knowledge to non-routine problems
- take appropriate action within scope of authority in accordance with procedures.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- organisation procedures, including:
 - work permit systems
 - safety, emergency and hazard control
 - standard operating procedures (SOPs)
- hazards that may arise in the job/work environment, including:
- their possible causes
- potential consequences
- appropriate risk controls/ hierarchy of control
- principles of the operation of the equipment to be maintained:
 - operating principles for mechanical, hydraulic, pneumatic and electrical/electronic systems
 - functions and troubleshooting of internal components and their problems
 - routine and non-routine causes of equipment failures and the service conditions which may increase maintenance
- types and application of testing procedures and equipment.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence based on a holistic assessment of the evidence.

- The collection of performance evidence:
 - should occur over a range of situations which include typical disruptions to normal, smooth operations
 - will typically include a supervisor/third-party report focusing on consistent performance and problem recognition and solving. A supervisor/third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency
 - must include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems
 - may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.
- Assessment should occur in operational workplace situations. Where this is not possible, or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment reflecting realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.
- Assessment in a simulated environment should use evidence collected from one or more of:
 - walk-throughs
 - pilot plant operation
 - demonstration of skills
 - industry-based case studies/scenarios
 - 'what ifs'.
- Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process, such as workbooks, written assessments or interviews (provided a record is kept).
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- The regulatory framework will be reflected in workplace policies and procedures and is not required to be independently assessed.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- As a minimum, assessors must satisfy the Standards for Registered Training Organisations 2015 assessor requirements.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027>

MSMSUP390 Use structured problem-solving tools

Modification History

Release 2. Equivalent. Minor edits for improved clarity. Range of conditions removed.

Release 1. Supersedes and is equivalent to MSAPMSUP390A Use structured problem-solving tools.

Application

This unit describes the skills and knowledge required to use structured process improvement tools to solve process and other problems. It describes the broad application of in-depth and rigorous structured problem-solving techniques to identify opportunities for improvement.

This unit applies to experienced operators, team leaders, supervisors or people in similar roles who are required to identify improvements and/or solve problems beyond those associated directly with the process unit and/or equipment.

This unit applies to an individual working alone or as part of a team or group and working in liaison with other shift team members and the control room operator, as appropriate.

This unit of competency applies to all work environments.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Support

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Identify the problem	1.1 Identify variances from desired operating and/or output parameters and quality 1.2 Define the extent, cause and nature of the problem by observation

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	and investigation 1.3 State and specify the problem clearly
2. Determine fundamental cause of problem	2.1 Select problem-solving tool appropriate to the problem and the context 2.2 Identify possible causes based on experience and the use of problem-solving tools and analytical techniques 2.3 Develop possible cause statements 2.4 Determine fundamental cause
3. Determine corrective action	3.1 Determine all possible options for resolution of the problem 3.2 Identify strengths and weaknesses of possible options 3.3 Determine corrective action to remove the problem and possible future causes 3.4 Develop implementation plans identifying measurable objectives, resource needs and timelines in accordance with safety and operating procedures 3.5 Develop recommendations for ongoing monitoring and testing
4. Communicate recommendations	4.1 Prepare report on recommendations 4.2 Present recommendations to appropriate personnel 4.3 Follow up recommendations

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 2. Supersedes and is equivalent to MSAPMSUP390A Use structured problem-solving tools

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027>

Assessment Requirements for MSMSUP390 Use structured problem-solving tools

Modification History

Release 2. Equivalent. Minor edits for improved clarity. Range of conditions removed.

Release 1. Supersedes and is equivalent to MSAPMSUP390A Use structured problem-solving tools.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- identified at least 1 problem
- analysed problem using at least 1 analysis tool drawn from each of 2 different groups of tools (basic, visual, process, business and organisation specific)
- selected the preferred solution
- developed and used an implementation plan, that includes:
 - specific, measurable, achievable, relevant, timed (SMART) objectives
 - resource requirements
 - methods for reaching objectives
 - timelines
 - methods of checking and adjusting adherence to plan
- communicated effectively with other personnel.
-

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- relevant organisation procedures
- risks, risk assessment and controls relevant to problem being analysed
- targets and measures for output and quality
- types and application of problem-solving tools and analytical techniques
- relevant equipment and operational processes.
-

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies, as well as, using suitable facilities, equipment and resources.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027>

MSS027014 Apply environmental legislation, codes and standards

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit describes the skills and knowledge to interpret and apply relevant environmental legislation, codes and standards to activities associated with a work area, site, project or program. Personnel are required to access, review and interpret complex legal and technical documents, develop and revise site or project-specific environmental management procedures, explain the implications of these documents to site personnel, monitor work activities to ensure compliance and prepare reports.

This unit applies to environmental site coordinators, environmental managers and senior environmental officers working in all industry sectors. They may also work under the supervision of an environmental scientist or engineer, site manager or workplace environmental manager.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Management

Unit Sector

Environmental

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1	Access and interpret relevant legislation, codes	1.1	Read and interpret legislative, regulatory and licensing requirements and approvals that apply to site or project
		1.2	Analyse the broad significance of these requirements for

<p>Elements describe the essential outcomes.</p> <p>and standards</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element.</p> <p>the organisation, key job roles and specific work activities</p>
	<p>1.3 Identify legal accountability, obligations and consequences of non-compliance</p> <p>1.4 Obtain advice from relevant personnel about environmental law matters that impact on work area and are outside own scope of knowledge</p> <p>1.5 Clarify own scope of responsibility and authority for achieving specific environmental outcomes</p>
<p>2 Ensure project or site specific environmental management procedures comply with requirements</p>	<p>2.1 Read and interpret workplace environmental management policies, plans and procedures in conjunction with legislative requirements</p> <p>2.2 Assess the need for project or site-specific environmental management procedures in consultation with manager</p> <p>2.3 Draft new or revised procedures to address any gaps or deficiencies</p> <p>2.4 Provide draft documentation to relevant personnel for review and approval prior to use</p>
<p>3 Promote compliance by site personnel</p>	<p>3.1 Distribute clear information about the environmental management roles and responsibilities of site personnel</p> <p>3.2 Provide clear information about workplace environmental management policies, plans and procedures and work instructions</p> <p>3.3 Explain the implications of non-compliance to all site personnel in work area</p> <p>3.4 Empower site personnel through coaching and mentoring to manage their own environmental responsibilities</p>
<p>4 Ensure that work</p>	<p>4.1 Plan work activities to ensure environmental compliance</p>

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
activities meet compliance requirements	<p>4.2 Recognise when current or planned activities may require changes to existing licences and approvals and notify relevant personnel</p> <p>4.3 Implement environmental management policies, plans and procedures to ensure compliance and achieve environmental objectives and key performance indicators</p> <p>4.4 Collect and collate environmental data to support preparation of required reports and compliance information</p> <p>4.5 Review environmental data for completeness and accuracy and identify opportunities for improving compliance</p> <p>4.6 Complete reporting requirements in accordance with workplace procedures and legislative requirements</p>
5 Maintain knowledge of legislative requirements	<p>5.1 Monitor sources of information for changes to legislation, codes and standards</p> <p>5.2 Regularly update information for site personnel and explain changes to legal requirements that impact on work area</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS027002 Apply environmental legislation, codes and standards.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998>

Assessment Requirements for MSS027014 Apply environmental legislation, codes and standards

Modification History

Release 1. Updated unit code. Changes to performance criteria. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- researched, interpreted, applied and promoted environmental legislative requirements, codes and standards for at least 2 sites, projects or program activities.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- legal terminology, including statute, acts, regulations and ordinances
- sources of environmental legislative information and changes
- responsible bodies at federal and state and territory levels
- major features of federal and state and territory environmental legislation, regulations and local government by-laws, policies and plans that apply to the work area, site, project or program
- organisation's environmental management plans, policies, procedures and work instructions that apply to the work area, site, project or program
- workplace procedures for the development, revision and improvement of environmental management policies, plans, procedures and work instructions
- workplace environmental reporting requirements for the work area, site, project or program and reporting procedures
- types of site personnel.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of facilities, equipment and resources, including:
 - a standard work space equipped with basic computer equipment and access to organisation's information management system; maps, digital camera; and monitoring and sampling equipment
 - documentation, including site/project history, workplace environmental management policies, plans, actions, procedures and checklists.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

The MSS Sustainability Companion Volume implementation Guides are available from VETNet: -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998>

MSS402042 Apply 5S procedures

Modification History

Release 1. Unit code changed. Application changed. Performance Criteria changed. Foundation Skills populated. Range of Conditions removed. Assessment Requirements changed. Supersedes and is equivalent to MSS402041 Apply 5S in an office and MSS402040 Apply 5S procedures.

Application

This unit describes the skills and knowledge required to identify and implement 5S practices to make improvements in own job and work area.

This unit applies to workers who have a discrete role, individually manage a process or who have been given authority by a supervisor or manager to make changes to work practices in a work area.

This unit applies to any organisation that is implementing continuous improvement or more formal competitive systems and practices.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Competency Field

Competitive systems and practices

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Prepare for implementation of 5S	1.1 Identify own functions in target work area in terms of internal and/or external customer requirements 1.2 Identify how own and team tasks contribute to work area functions 1.3 Identify key steps in work tasks 1.4 Confirm arrangements for assistance and reporting for 5S implementation

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
2. Sort needed items from unneeded	2.1 Identify all items in target work area 2.2 Distinguish between essential items for achieving work area functions and non-essential items 2.3 Place any non-essential item in an appropriate location other than work area/space 2.4 Regularly check that only essential items are in work area 2.5 Seek input from supervisor and any team members to confirm non-essential items and what to do with them
3. Set the workplace in order	3.1 Identify best location, state or condition for each essential item to minimise waste (muda) 3.2 Set each essential item in its assigned location, state or condition 3.3 After use, immediately return each essential item to its assigned location, state or condition 3.4 Regularly check that each essential item is in its assigned location, state or condition
4. Shine the work area	4.1 Keep work area clean and organised before, during and after shift 4.2 Identify cleaning and maintenance routines within own area of responsibility in work area 4.3 Apply cleaning and maintenance routines according to schedules. 4.4 Check work area and essential items for signs of wear, malfunction, damage and/or safety risks that require immediate attention and report according to workplace procedures
5. Standardise activities	5.1 Identify and apply procedures or activities to maintain clean and organised work area 5.2 Apply standardised approach to procedures or activities using a simple checklist, schedule or reminder system 5.3 Keep work area to specified standard
6. Sustain the 5S system	6.1 Clean and organise work area after completion of job and before commencing next job 6.2 Identify situations where conformance to standards is unlikely and take actions specified in procedures 6.3 Inspect work area regularly for conformance to specified standard 6.4 Recommend improvements to lift the level of conformance in the

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	workplace

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

- Reading skills to interpret familiar workplace procedures and work documentation
- Writing skills to complete familiar workplace documentation
- Oral communication skills to report issues and recommendations and participate in discussions
- Numeracy skills to perform simple arithmetic with whole numbers and routine fractions or percentages.

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS402041 Apply 5S in an office and MSS402040 Apply 5S procedures.

Links

Companion Volume Implementation Guides are found in VETNet --
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998>

Assessment Requirements for MSS402042 Apply 5S procedures

Modification History

Release 1. Unit code changed. Application changed. Performance Criteria changed. Foundation Skills populated. Range of Conditions removed. Assessment Requirements changed. Supersedes and is equivalent to MSS402041 Apply 5S in an office and MSS402040 Apply 5S procedures.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and demonstrated the ability to:

- identify, apply and sustain 5S procedures to improve at least one aspect of a work area.
-

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- 5S concepts and procedures including:
 - meaning and application of 5S to own job and work area
 - purpose and steps of 5S
- workplace procedures, instructions or similar for own activities and of others in team or work area
- principles of efficient workplace organisation
- types of muda (waste) including:
 - defects/rework
 - overprocessing
 - overproduction
 - unnecessary motion
 - unnecessary transport
 - excess inventory
 - underutilised resources or talent
- potential muda (waste) within the work area and types of improvements related to location and use of:
 - supplies, equipment, materials, furniture
 - lighting, heating, cooling
 - paperwork, reference materials, files, storage systems
 - safety and personal protective equipment (PPE)
- simple methods to estimate the amount of muda (waste) and the benefits from improvements

- procedures for recommending improvements.
-

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources
- modelling of industry operating conditions.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

Companion Volume Implementation Guides are found in VETNet --
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998>

MSS403003 Contribute to improvements in competitive systems and practices

Modification History

Release 1. Unit code changed. Unit title changed. Application changed. Performance Criteria changed. Foundation Skills populated. Range of Conditions removed. Assessment Requirements changed. Supersedes and is equivalent to MSS403001 Review competitive systems and practices.

Application

This unit describes the skills and knowledge required to review five key performance areas of competitive systems and practices in a team or work area and improve performance and/or integration with the broader competitive systems and practices context.

This unit applies to operational staff, team leaders, technicians, tradespeople or others who have been given responsibility to contribute to the holistic implementation and improvement of competitive systems and practices.

This unit applies to any organisation that is implementing competitive systems and practices.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Competency Field

Competitive systems and practices

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Contribute to the improvement of the operations system in team or work area	<p>1.1 Identify key performance indicators (KPIs) for health, safety and environment, quality, capability, cost and delivery within area of operations.</p> <p>1.2 Review competitive systems and practices to improve health, safety and environment performance of self and others</p>

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	<p>1.3 Review competitive systems and practices to maximise quality consistency</p> <p>1.4 Review team capability in competitive systems and practices to identify any skills or other development needs</p> <p>1.5 Review competitive systems and practices to maximise customer benefit/cost ratio</p> <p>1.6 Review competitive systems and practices to reduce lead time to delivery, within own scope of authority and responsibility</p> <p>1.7 Work with key stakeholders to resolve conflicts which arise from implementation of competitive systems and practices</p> <p>1.8 Contribute to discussions with stakeholders to evaluate overall costs, benefits and risks of improvement options and select improvements</p> <p>1.9 Model and encourage communications based on respect for people and team expertise</p>
2. Implement improvements	<p>2.1 Work with team and, where relevant, other stakeholders, to plan and implement selected improvements</p> <p>2.2 Check that selected improvements improve the system as a whole and do not result in unintended consequences</p> <p>2.3 Monitor implementation and make adjustments to achieve and sustain improvements</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

- Reading skills to interpret workplace documentation
- Writing skills to complete workplace documentation
- Oral communication skills to liaise with range of stakeholders
- Numeracy skills to identify and interpret KPIs
- Learning skills to review team capabilities and identify development needs.

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS403001 Review competitive systems and practices.

Links

Companion Volume Implementation Guides are found in VETNet --
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998>

Assessment Requirements for MSS403003 Contribute to improvements in competitive systems and practices

Modification History

Release 1. Unit code changed. Unit title changed. Application changed. Performance Criteria changed. Foundation Skills populated. Range of Conditions removed. Assessment Requirements changed. Supersedes and is equivalent to MSS403001 Review competitive systems and practices.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and demonstrated the ability to:

- review key performance indicators (KPIs) for health, safety and environment, quality, capability, cost and delivery relevant to the area of operations on at least one occasion
- identify and implement at least 2 improvements, each targeting improved performance in a different KPI.
-

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- techniques for monitoring health, safety and environment, quality, capability, cost and delivery
- KPIs relevant to health, safety and environment, quality, capability, cost and delivery; and their use and problems
- cost components of processes, products or services related to the area of operations
- types of muda relevant to the processes or products including 'required' muda
- methods of minimising muda
- kaizen (continuous improvement)
- methods for identifying customer benefit/cost ratio
- techniques for identifying and improving employee capability
- underpinning values relevant to competitive systems and practices and their relevance to work area or team including:
 - respect for people
 - respect for process
 - transparency and culture of learning.
-

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources
- modelling of industry operating conditions, including:
 - functioning competitive systems and practices environment.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

Companion Volume Implementation Guides are found in VETNet --
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998>

MSS403012 Facilitate change in a competitive systems and practices environment

Modification History

Release 1. Unit code changed. Unit title changed. Application changed. Elements changed. Performance Criteria changed. Foundation Skills populated. Range of conditions removed. Assessment Requirements changed. Workplace outcome has changed. Supersedes and is not equivalent to MSS403010 Facilitate change in an organisation implementing competitive systems and practices.

Application

This unit describes the skills and knowledge required to assist in planning and implementing changes relating to competitive systems and practices and to identify change implementation issues and take action to have these issues addressed.

This unit applies to senior staff, team leaders, supervisors or those in similar roles who have been given the responsibility to facilitate change processes within a formal or ad hoc team, such as a work area or section of an organisation. Change implementation issues may arise in the implementation of specific competitive systems or practices or in other changes such as the introduction of new products, processes, services or equipment.

This unit does not cover the negotiation of change in a formal industrial relations sense. However these issues may be identified and would be referred to formal consultation and/or dispute settlement procedures.

This unit applies to any organisation that is implementing competitive systems and practices.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Determine nature and impact of change for designated area and processes	1.1 Confirm with management organisation's aims and objectives for competitive systems and practices techniques related to change process 1.2 Identify opportunities for implementation of change within work area to support desired outcome/s 1.3 Engage with team and relevant personnel to determine potential benefits, challenges and impacts on work practices from change
2. Identify key performance indicators (KPIs)	2.1 Liaise with team, management, technical, compliance and other stakeholders responsible for designing and/or implementing change to determine key performance indicators (KPIs) for own work and that of work area 2.2 Discuss KPIs with team to confirm or amend 2.3 Review data collection and processing with input from team and make or recommend revisions as needed 2.4 Raise and resolve any issues related to KPIs with relevant personnel
3. Identify and act on issues and concerns	3.1 Identify key stakeholders impacted by change 3.2 Discuss change and potential impacts with key stakeholders 3.3 Gain detailed understanding of issues and concerns of each stakeholder and determine appropriate action, with input from others as needed 3.4 Develop response and/or locate information required to address issues and concerns within scope of authority 3.5 Refer issues and concerns outside of scope of authority to relevant personnel
4. Develop a strategy to help implement change	4.1 Identify or develop work plan for implementing change 4.2 Make information available to team members to support change 4.3 Determine skills and/or other development needs of team in relation to change and provide or initiate support 4.4 Gather feedback on draft work plan from team, managers, technical experts and other stakeholders 4.5 Review feedback and reach agreement with stakeholders on changes to work plan, as needed
5. Implement change	5.1 Obtain authorisation to commence change implementation in accordance with organisation procedures

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	5.2 Assist in implementation of change in accordance with work plan and organisational work health and safety (WHS) and consultation procedures 5.3 Provide information, mentoring or other support to team to assist them to contribute to implementation of change
6. Monitor implementation of change	6.1 Discuss progress with team, management, technical, compliance and other stakeholders to identify barriers or challenges to implementation of change 6.2 Take or initiate action to address issues 6.3 Monitor KPIs during implementation 6.4 Encourage and facilitate improvement suggestions of team members 6.5 Review feedback and improvement suggestions to identify areas requiring improvement in change implementation 6.6 Make improvements to implementation according to organisation procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

- Reading skills to interpret workplace documentation
- Writing skills to develop and amend work plan, document stakeholder issues and action taken, seek authorisations
- Oral communication skills to liaise with range of stakeholders, assist in implementation
- Numeracy skills to determine and monitor KPIs.

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

No equivalent unit.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998>

Assessment Requirements for MSS403012 Facilitate change in a competitive systems and practices environment

Modification History

Release 1. Unit code changed. Unit title changed. Application changed. Elements changed. Performance Criteria changed. Foundation Skills populated. Range of conditions removed. Assessment Requirements changed. Workplace outcome has changed. Supersedes and is not equivalent to MSS403010 Facilitate change in an organisation implementing competitive systems and practices.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and demonstrated the ability to:

- plan for, and assist in, implementation of at least one change related to competitive systems and practices
- identify at least 2 change implementation issues and take action according to scope of authority.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- application of competitive systems and practices to:
 - customer pull and flow
 - customer value
 - continuous improvement
 - muda
 - agile
- features of competitive operational practices being used in own work area
- methods of gathering data against key performance indicators (KPIs)
- work, health and safety (WHS) and environment principles and requirements for area of responsibility
- levels of autonomy and decision-making parameters
- organisation's change implementation procedures
- planning and implementation strategies
- change issues within vs beyond scope of authority and appropriate actions
- underpinning values relevant to competitive systems and practices including:
 - respect for people
 - respect for process
 - transparency and culture of learning

- techniques to encourage input to and engagement with change
- approaches to supporting team members to adapt to change
- possible skills and/or other development needs in relation to competitive operational practices being used in work area and options to address them
- employee assistance mechanisms within organisation.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources,
- modelling of industry operating conditions, including:
 - functioning competitive systems and practices environment.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

Companion Volume Implementation Guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998>

MSS403022 Facilitate a Just in Time system

Modification History

Release 1. Unit code changed. Application changed. Elements changed. Performance Criteria changed. Foundation Skills populated. Range of Conditions removed. Assessment Requirements changed. Workplace outcome has changed. Supersedes and is not equivalent to MSS403021 Facilitate a Just in Time system.

Application

This unit describes the skills and knowledge required to facilitate improvements in a Just in Time (JIT) system in a team or work area.

This unit applies to senior operators, team leaders or others who have been given the authority to lead, facilitate and assist others within a JIT system to monitor its operation and to identify and implement improvements to the system.

This unit applies to any organisation that is implementing competitive systems and practices.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Competitive systems and practices

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Monitor and sustain the operation of the JIT system	1.1 Regularly review, with input from team, performance against key measures and identify areas of poor performance 1.2 Seek feedback from other stakeholders on operation of JIT system 1.3 Analyse information to identify need for quick fix action 1.4 Take or initiate appropriate quick fix action 1.5 Assist team to understand why quick fix action is appropriate

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
2. Identify improvements to the JIT system	2.1 Regularly communicate with team or work group members regarding operation of JIT system 2.2 Review, with input from team, JIT key performance indicators (KPIs) 2.3 Discuss operation of JIT system with relevant personnel across organisation and seek their feedback 2.4 Analyse information to identify areas for improvement
3. Facilitate team to implement improvements to the JIT system	3.1 Confirm areas for improvement with input from team and relevant personnel 3.2 Identify root cause of JIT-related problems 3.3 Review value of key measures 3.4 Recognise skill and/or other development needs of team and provide or initiate support 3.5 Provide mentoring and/or guidance to assist team members to contribute to JIT improvements 3.6 Facilitate collaboration with team and others develop improvement options to address identified causes and/or issues 3.7 Gain agreement from relevant personnel on improvements to be implemented 3.8 Implement or assist with implementation of agreed improvements within scope of autonomy

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

- Reading skills to interpret workplace documentation
- Oral communication skills to facilitate communication with a range of stakeholders in the value stream and to support team participation
- Numeracy skills to identify and interpret key measures.

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

No equivalent unit.

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998>

Assessment Requirements for MSS403022 Facilitate a Just in Time system

Modification History

Release 1. Unit code changed. Application changed. Elements changed. Performance Criteria changed. Foundation Skills populated. Range of Conditions removed. Assessment Requirements changed. Workplace outcome has changed. Supersedes and is not equivalent to MSS403021 Facilitate a Just in Time system.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and demonstrated the ability to:

- facilitate, with 2 or more other people, at least 3 improvements to support a JIT system.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- levels of autonomy and decision-making parameters
- JIT methods relevant to own work area
- production data generated by the process and its application to JIT
- methods of gathering data against key performance indicators (KPIs)
- root cause analysis methods
- underpinning values relevant to competitive systems and practices including:
 - respect for people
 - respect for process
 - transparency and culture of learning
- facilitation techniques to encourage input to, and engagement with, improvements
- approaches to supporting team members to contribute and debate ideas
- possible skill and/or other development needs in relation to JIT and how to address them.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources
- modelling of industry operating conditions, including:
 - functioning or in development JIT system.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998>

MSS404056 Apply statistics to operational processes

Modification History

Release 1. Unit code changed. Application changed. Foundation Skills populated. Assessment Requirements changed. Supersedes and is equivalent to MSS404054 Apply statistics to operational processes.

Application

This unit describes the skills and knowledge required to gather and analyse process data to support the control of processes and operations.

This unit applies to team leaders, technical experts, experienced operators or others who are required to interpret data and apply statistical concepts to determine whether monitored processes are in control and to communicate this information to others.

This unit applies to any organisation that is applying statistical process control on processes or operations.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Competency Field

Competitive systems and practices

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Collect process data	1.1 Read and interpret sampling scheme 1.2 Obtain measurements in accordance with standard sampling procedures 1.3 Handle data in accordance with procedures
2. Interpret data	2.1 Plot data on control chart 2.2 Identify random and non-random patterns of results 2.3 Identify results outside the control limits 2.4 Identify situations requiring action

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	2.5 Take action in accordance with procedures 2.6 Calculate cost of non-conformance
3. Calculate control limits	3.1 Consult stakeholders to determine appropriate limits 3.2 Calculate and revise control limits 3.3 Plot limits on control chart and complete all records in accordance with procedures 3.4 Explain impact of limit to stakeholders

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

- Reading skills to interpret process control data
- Writing skills to plot control charts
- Oral communication skills to discuss/explain process control limits with stakeholders
- Numeracy skills to calculate cost factors, interpret data, apply statistical concepts and plot control charts.

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS404054 Apply statistics to operational processes.

Links

Companion Volume Implementation Guides are found in VETNet --

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998>

Assessment Requirements for MSS404056 Apply statistics to operational processes

Modification History

Release 1. Unit code changed. Application changed. Foundation Skills populated. Assessment Requirements changed. Supersedes and is equivalent to MSS404054 Apply statistics to operational processes.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and demonstrated the ability to:

- collect and interpret process data and apply to control of at least 2 operational processes
- calculate control limits and plot control charts for at least 2 operational processes.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- purpose of sampling and measurement
- sampling methods to be used
- methods of calculating mean and standard deviation and their purpose in statistical control
- concept of limits, including 1, 2, 3 and 6 sigma limits
- types of control charts and their applications to different types of process and product and for different purposes
- process causes of variation and typical cause types of non-random variation
- non-process causes of variation
- stable and unstable processes
- causes of stability and instability in the process
- calculation of control limits and process capability and the applications of different control limits
- standard distribution curve and confidence limits.
-

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources
- modelling of industry operating conditions, including:

- functioning statistical process control processes and related procedures.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

Companion Volume Implementation Guides are found in VETNet --

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998>

MSS405055 Manage application of Six Sigma for process control and improvement

Modification History

Release 1. Unit code changed. Application changed. Elements changed. Performance Criteria changed. Foundation Skills populated. Range of Conditions removed. Assessment Requirements changed. Workplace outcome changed. Supersedes and is not equivalent to MSS405053 Manage application of Six Sigma for process control and improvement.

Application

This unit describes the skills and knowledge required to manage Six Sigma (or similar statistics based approach) for process control and process improvement.

This unit applies to managers, technical specialists or similar roles who are required to identify potential six sigma projects, apply and assist others to participate in the DMAIC approach, and establish and confirm control strategies.

This unit applies to any process or organisation.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

MSS404056 Apply statistics to operational processes

Competency Field

Competitive systems and practices

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Identify Six Sigma projects	<p>1.1 Confirm area of responsibility or study with leadership team and other stakeholders</p> <p>1.2 Review statistical process control (SPC), process capability and other data relevant to area of responsibility or study</p> <p>1.3 Identify shifts in process performance and processes requiring improvement</p> <p>1.4 Quantify shifts in performance which have occurred or which are desired</p> <p>1.5 Determine cost of shift in performance and cost of intervention</p> <p>1.6 Identify improvement priorities and degree of intervention</p>
2. Apply define, measure, analyse, improve, and control and standardise (DMAIC) process to priority areas	<p>2.1 Define improvement project</p> <p>2.2 Provide information and/or guidance to assist employees to participate in DMAIC</p> <p>2.3 Determine metrics and acquire initial data</p> <p>2.4 Analyse data and determine possible causes of performance shifts and process improvements</p> <p>2.5 Develop and trial improvement solutions</p> <p>2.6 Control and standardise improvement</p>
3. Establish or review control strategies	<p>3.1 Determine sampling schedule</p> <p>3.2 Analyse data to determine process capability</p> <p>3.3 Develop process control strategy</p> <p>3.4 Confirm strategy with all stakeholders</p> <p>3.5 Recognise skill needs of employees to implement and monitor process control strategy</p> <p>3.6 Arrange for training or development to address identified needs</p>
4. Review and confirm improvement	<p>4.1 Calculate and document benefits</p> <p>4.2 Make, or initiate action for, updates to procedures and other relevant documentation for improved procedure</p> <p>4.3 Review process data and confirm improvement</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

- Writing skills to document outcomes and ensure procedures are updated
- Oral communication skills to liaise with a range of stakeholders and provide information and/or guidance
- Numeracy skills to determine metrics, apply statistical control methods.

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

Release 1. No equivalent unit.

Links

Companion Volume Implementation Guides are found in VETNet --

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998>

Assessment Requirements for MSS405055 Manage application of Six Sigma for process control and improvement

Modification History

Release 1. Unit code changed. Application changed. Elements changed. Performance Criteria changed. Foundation Skills populated. Range of Conditions removed. Assessment Requirements changed. Workplace outcome changed. Supersedes and is not equivalent to MSS405053 Manage application of Six Sigma for process control and improvement.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and demonstrated the ability to:

- manage application of Six Sigma to control and improve at least one process.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- processes for the identification and definition of Six Sigma (or similar) projects
- sampling, data collection, and analysis methods
- how to determine quantifiable benefits
- DMAIC methodology and application
- statistical principles and analysis, including confidence limits, analysis of variance, frequency distribution tables, histograms, arithmetic mean, median, mode, standard deviation, range, interquartile range, correlation and dependence
- acceptance criteria and confidence levels
- failure mode and effects analysis (FMEA)
- process mapping
- suppliers, inputs, process, outputs, customers (SIPOC) mapping
- types of data (including discrete, continuous and attributes) and their use in Six Sigma
- communication styles, methods and media to suit a range of audiences
- types of skills and information needed to apply DMAIC and process controls
- options to address skills and information needs.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
 - access to process data

- modelling of industry operating conditions.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

Companion Volume Implementation Guides are found in VETNet --

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998>

MSS407026 Lead a process to determine and solve root cause for a complex problem

Modification History

Release 1. Unit code changed. Application changed. Performance Criteria changed. Foundation Skills populated. Assessment Requirements changed. Supersedes and is equivalent to MSS407016 Lead a process to determine and solve root cause for a complex problem.

Application

This unit describes the skills and knowledge required to lead a problem-solving process to solve complex and/or unusual problems within the organisation or in the value stream.

This unit applies to managers, technical experts or similar roles with responsibility and authority to lead others in developing solutions for a complex problem. A complex problem will typically require input from technical experts and may require iterations of problem-solving activity to adequately define the problem. The problem-solving process will typically involve the use of real or nominal groups to determine the root cause and propose the solution.

This unit applies to any organisation that is implementing competitive systems and practices.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Competency Field

Competitive systems and practices

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Recognise complex problem	1.1 Identify a complex issue which needs to be addressed 1.2 Undertake initial investigation of issue 1.3 Determine initial areas of expertise and data which may be required to analyse problem 1.4 Write initial definition of problem

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
2. Develop problem-solving methodology	2.1 Draft a problem-solving methodology 2.2 Develop required approaches and protocols for obtaining required data and information 2.3 Establish group/s to assist with problem solving 2.4 Allocate tasks, responsibilities and reporting arrangements to group/s 2.5 Develop arrangements for consultation with required people outside of group/s
3. Analyse problem	3.1 Apply methodology in consultation with required people 3.2 Obtain data and information 3.3 Review problem definition 3.4 Review methodology 3.5 Obtain additional data and information
4. Identify root cause	4.1 Map causal links for problem 4.2 Determine indicators of problem or problem precursors 4.3 Identify causes which can be controlled
5. Develop a solution	5.1 Develop solutions for controllable causes 5.2 Determine cost benefit for proposed solutions 5.3 Investigate proposed solutions for efficacy 5.4 Select best available solution 5.5 Obtain support and authorisations for proposed solution
6. Check problem is solved and standardised	6.1 Monitor indicators of problem and problem precursor 6.2 Review problem solution and implementation 6.3 Confirm solution is standardised

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

- Reading skills to interpret workplace documentation

- Writing skills to document definition of complex problem, standardise solutions
- Oral communication skills to facilitate engagement and participation
- Numeracy skills to determine data requirements, interpret data.

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSS407016 Lead a process to determine and solve root cause for a complex problem.

Links

Companion Volume Implementation Guides are found in VETNet --

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998>

Assessment Requirements for MSS407026 Lead a process to determine and solve root cause for a complex problem

Modification History

Release 1. Unit code changed. Application changed. Performance Criteria changed. Foundation Skills populated. Assessment Requirements changed. Supersedes and is equivalent to MSS407016 Lead a process to determine and solve root cause for a complex problem.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and demonstrated the ability to:

- lead a process to determine and solve root cause for at least one complex problem.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- organisational goals, products and/or services and processes
- sources of data (actual and possible) within the organisation and the value stream
- techniques and methodologies of formal problem solving
- data required for problem solving and alternative or proxy data sources
- cost benefit analysis
- strategies for facilitation of real groups (physical and/or face to face) and nominal groups (which never meet and may not know each other).

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources
- modelling of industry operating conditions.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

Companion Volume Implementation Guides are found in VETNet --
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998>

MSS407029 Improve visual management in the workplace

Modification History

Release 1. Unit code changed. Application changed. Performance Criteria changed. Foundation Skills populated. Range of Conditions removed. Assessment Requirements changed. Workplace outcome changed. Supersedes and is not equivalent to MSS407010 Improve visual management in the workplace.

Application

This unit describes the skills and knowledge required to review and improve visual management in the workplace.

This unit applies to supervisors, managers and others who have been given the responsibility to review the effectiveness of current visual management strategies and tools for an organisation, or a section thereof, and determine, implement and evaluate improvements.

In this unit visual management strategies may be active, such as operator controlled status indicators, or passive, such as information boards or information islands containing production or other data. Typically the visual management strategies will give employees access to production, work health and safety (WHS), equipment availability or other data.

This unit applies to any organisation that is implementing continuous improvement or more formal competitive systems and practices.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Competency Field

Competitive systems and practices

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Determine current visual management activities and information needs	1.1 Inspect current visual management activities and information they provide 1.2 Seek input from operational personnel on effectiveness of current activities and additional information needs 1.3 Liaise with stakeholders to identify successes and problems in

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	<p>relation to current visual management activities and determine root cause/s of problems</p> <p>1.4 Review linkage of current activities with organisational approach to continuous improvement and/or competitive systems and practices to identify areas for potential visual management improvements</p> <p>1.5 Review feedback and information gathered to determine priority areas for potential visual management improvements in line with organisational approach to continuous improvement and/or competitive systems and practices</p> <p>1.6 Develop options for visual management activities in priority areas</p> <p>1.7 Select improvements to be made with reference to benefit which would accrue from improvement options and cost of providing information</p>
2. Choose which things to display visually	<p>2.1 Document list of information identified as relevant to visual management improvements</p> <p>2.2 Rank possible information based on benefit/cost or other agreed basis</p> <p>2.3 Liaise with stakeholders to determine critical information and possible information sources to be included in visual management system</p> <p>2.4 Negotiate provision of critical information to level of precision aligned to identified needs</p>
3. Choose display method	<p>3.1 Liaise with stakeholders to determine language, style and communication methods suited to target personnel</p> <p>3.2 Choose most appropriate display method for each item of critical information to meet personnel needs</p> <p>3.3 Determine most appropriate location for visual display of each item of critical information to maximise access for relevant personnel</p> <p>3.4 Determine appropriate source and approving authority for display information</p> <p>3.5 Review chosen information, information source, display method and location and amend as needed to ensure accuracy and effectiveness</p> <p>3.6 Validate data and/or information as required for chosen method</p>
4. Review the results of visual management	4.1 Review actual benefit gained and actual cost of providing information

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	<p>4.2 Validate appropriateness of information provided for delivering intended outcome</p> <p>4.3 Liaise with stakeholders to identify successes and problems in relation to visual management improvements</p> <p>4.4 Identify improvements to address issues identified within visual management system</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

- Reading skills to interpret complex workplace information
- Writing skills to document and communicate visual management strategies and improvements
- Oral communication skills to liaise with a range of stakeholders, negotiate agreements
- Numeracy skills to interpret performance data and information for visual management techniques.

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

Release 1. No equivalent unit.

Links

Companion Volume Implementation Guides are found in VETNet --

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998>

Assessment Requirements for MSS407029 Improve visual management in the workplace

Modification History

Release 1. Unit code changed. Application changed. Performance Criteria changed. Foundation Skills populated. Range of Conditions removed. Assessment Requirements changed. Workplace outcome changed. Supersedes and is not equivalent to MSS407010 Improve visual management in the workplace.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and demonstrated the ability to:

- review current visual management activities and identify and implement improvements for at least one organisation or section of an organisation.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- organisational goals, strategies, operations and processes
- purpose of visual management
- alignment of visual management strategies and techniques to continuous improvement strategies and processes and/or competitive systems and practices tools being applied by the organisation
- communication techniques to support a learning culture
- communication methods and media for a range of audiences
- problem recognition and resolution methods.
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Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources
- modelling of industry operating conditions.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

Companion Volume Implementation Guides are found in VETNet --
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998>

PSPPCM007 Manage contracts

Modification History

Release	Comments
1	<p>This unit was released in PSP Public Sector Training Package release 1.0 and meets the Standards for Training Packages.</p> <p>This unit supersedes and is equivalent to PSPPROC414A Manage contracts.</p> <ul style="list-style-type: none"> • Unit code updated • Content and formatting updated to comply with new standards • All PC transitioned from passive to active voice

Application

This unit describes the skills required to manage contracts. It includes undertaking preparations, establishing and maintaining contract management arrangements, monitoring and maintaining contract performance, and completing and reviewing contracts.

This unit applies to those working as public sector employees with responsibilities relating to contract management.

The skills and knowledge described in this unit must be applied within the legislative, regulatory and policy environment in which they are carried out. Organisational policies and procedures must be consulted and adhered to.

Those undertaking this unit would work autonomously with management responsibilities while performing complex tasks in familiar contexts.

No licensing, legislative or certification requirements apply to unit at the time of publication.

Competency Field

Procurement

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the range of conditions section.
1. Prepare to manage a contract	<p>1.1 Confirm and clarify contract requirements, approvals and funding arrangements and identify obligations and limits of authority.</p> <p>1.2 Clarify and assist with contract administration issues by contacting specialists and stakeholders and confirm operational elements of the contract.</p> <p>1.3 Identify and clarify key contract clauses.</p> <p>1.4 Identify and confirm process, timings, and key performance indicators with stakeholders.</p> <p>1.5 Develop or review the risk management plan.</p> <p>1.6 Develop or obtain contract management strategy and enter key details from the contract.</p> <p>1.7 Form contract management team and allocate roles and responsibilities.</p>
2. Implement a contract management strategy	<p>2.1 Confirm and implement start-up or transition arrangements.</p> <p>2.2 Establish information and contractor and stakeholder communication strategies.</p> <p>2.3 Monitor and update risk management plan.</p> <p>2.4 Manage relationship with contractors and stakeholders.</p> <p>2.5 Obtain specialist expertise as necessary for progress meetings and for advice on or resolution of contract issues.</p> <p>2.6 Maintain contract information and documentation.</p>
3. Monitor and maintain performance of a contract	<p>3.1 Ensure obligations to contractor and stakeholders are met.</p> <p>3.2 Use monitoring and control measures and performance indicators to manage performance of contract and ensure that all obligations under the agreement are being met.</p> <p>3.3 Manage contract variations.</p> <p>3.4 Investigate and resolve or refer disputes and complaints.</p> <p>3.5 Manage negotiation of contract issues.</p> <p>3.6 Maintain communication with all stakeholders on the performance of the contract.</p>
4. Complete and review contract	<p>4.1 Confirm client satisfaction with contract deliverables.</p> <p>4.2 Finalise, amend, cancel or terminate contracts.</p> <p>4.3 Manage close-out, and renewal of contract or transition to a new contract.</p> <p>4.4 Review contract management, contractor performance, user</p>

	<p>satisfaction and audit results.</p> <p>4.5 Document and explain variances to measures or outcomes that are not met in full.</p> <p>4.6 Report on contractor performance and review contract management practice and make recommendations for improvement.</p>
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Foundation Skills

Foundation skills are embedded within the elements and performance criteria of this unit.

Unit Mapping Information

This unit supersedes and is equivalent to PSPPROC414A Manage contracts.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=bebbece7-ff48-4d2c-8876-405679019623>

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<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=bebbece7-ff48-4d2c-8876-405679019623>

Assessment Requirements for PSPPCM007 Manage contracts

Modification History

Release	Comments
1	<p>These Assessment Requirements were released in PSP Public Sector Training Package release 1.0 and meet the Standards for Training Packages.</p> <ul style="list-style-type: none"> Assessment Requirements created drawing upon specified assessment information from superseded unit

Performance Evidence

Evidence required to demonstrate competence must satisfy all of the requirements of the elements and performance criteria. If not otherwise specified the candidate must demonstrate evidence of performance of the following on at least one occasion.

- consulting and negotiating with contractors and stakeholders, involving complex oral and written exchanges of information
- networking, within probity boundaries, with diverse stakeholders and contractors
- interpreting complex documents, including contracts, legislation and guidelines
- applying simple supply chain and supplier issues management techniques

Knowledge Evidence

Evidence required to demonstrate competence must satisfy all of the requirements of the elements and performance criteria. If not otherwise specified the depth of knowledge demonstrated must be appropriate to the job context of the candidate.

- commonwealth, state or territory, and local government legislation, policies, practices and guidelines relating to contract management, including environmental purchasing and corporate social responsibility guidance
- contract performance management
- privacy and confidentiality issues
- probity principles and issues
- financial and accounting issues relevant to the contract

Assessment Conditions

This unit contains no specific industry-mandated assessment conditions. Guidance on suggested and recommended conditions and methods can be found in the Implementation Guide.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=bebbece7-ff48-4d2c-8876-405679019623>

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<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=bebbece7-ff48-4d2c-8876-405679019623>

PUAEQU001 Prepare, maintain and test response equipment

Modification History

Release 1. This is the first release of this unit of competency in the PUA Public Safety Training Package.

Application

This unit of competency involves the skills and knowledge required to inspect, maintain and test a range of equipment. It includes inspecting response equipment, testing response equipment and cleaning, maintaining and restowing equipment

The unit applies to personnel who have either a primary role in the maintenance of equipment or are required to test and maintain equipment as part of an operational role.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

The fire sector is those sections of government departments, statutory authorities or organisations that have responsibility under jurisdictional arrangements for the delivery of firefighting and fire management services.

It is essential that the prerequisite units listed below are obtained prior to the issuance of this unit to individuals within the fire sector or the units contributing to the attainment of a fire qualification

PUAFIR210 Prevent injury

Competency Field

Equipment

Unit Sector

Public Safety

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- | | |
|---|---|
| 1 Inspect response equipment | 1.1 Equipment is inspected, in accordance with organisational procedures |
| | 1.2 Missing parts are identified and reported, in accordance with organisational procedures |
| | 1.3 Faulty or damaged equipment is reported and recorded, in accordance with organisational procedures |
| 2 Test response equipment | 2.1 Equipment is tested, in accordance with organisational procedures and standards and is identified as fit for purpose |
| | 2.2 Test results are recorded, in accordance with regulatory requirements and organisational procedures |
| | 2.3 Defective equipment and substandard performance is reported and recorded, in accordance with organisational procedures |
| 3 Clean, maintain and restow equipment | 3.1 Equipment is cleaned, maintained, assembled and stowed, in accordance with organisational procedures |
| | 3.2 Equipment records are updated, in accordance with organisational procedures |
| | 3.3 Equipment is recovered, restowed and made ready for future use |

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to PUAEQU001B Prepare, maintain and test response equipment.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

Assessment Requirements for PUAEQU001 Prepare, maintain and test response equipment

Modification History

Release 1. This is the first release of this unit of competency in the PUA Public Safety Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria on at least one occasion and includes

- applying organisational policies and procedures including Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) requirements and risk mitigation
- cleaning, maintaining and restowing response equipment
- communicating information in accordance with organisational procedures
- complying with safety data sheets
- inspection, testing and servicing of response equipment
- safely using cleaning agents and chemicals

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria and includes knowledge of

- communication techniques
- environmental legislation relating to waste water runoff and pollution
- organisational documentation, policies and procedures including Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) requirements and risk mitigation
- procedures for using, testing, cleaning and servicing response equipment
- response equipment used by the organisation
- safe working practices

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy

requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in industry approved simulated workplace operational situations that reflect workplace conditions.

Resources for assessment must include access to

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, equipment, tools and personal protective clothing and equipment currently used in industry
- applicable documentation including organisational procedures, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

PUAFIR017 Work safely around aircraft

Modification History

Release 1.0 This is the first release of this unit of competency in the PUA Public Safety Training Package.

Application

This unit of competency involves the skills and knowledge required to apply safe work practices when working around aircraft for organisational operations. It includes working safely in or around aircraft and facilitating safe ground support.

The unit is applicable to the provision of introductory training for personnel providing support services for aerial operations, noting that personnel undertaking specialist functions such as aircraft marshalling, aircraft refuelling, fire suppressant mixing and loading and ground-to-air radio communications will require further training. It also applies to the provision of safety training for operational personnel who may be required to utilise aircraft or work in the vicinity of aircraft in the performance of their work tasks and/or the provision of foundation training for all aviation related roles for fire, land management and emergency management.

Work is performed independently or under limited supervision as a single operator or within a team environment.

The fire sector is those sections of government departments, statutory authorities or organisations that have responsibility under jurisdictional arrangements for the delivery of firefighting and fire management services.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Competency Field

Fire

Unit Sector

Fire

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1 Work safely in and around aircraft

- 1.1 Site and job hazards are identified, risks are assessed and control measures are implemented
- 1.2 Personal protective clothing and equipment is worn and used correctly in accordance with organisational procedures
- 1.3 Appropriate clearances and permissions, where required, are obtained and procedures are adhered to whilst operating in aircraft movement areas
- 1.4 Any approach to an operating aircraft is made from an angle visible to the pilot or air crew and with approval of the pilot or air crew
- 1.5 Adequate clearance is maintained from propellers, rotors, engines, exhaust gases and engine intakes
- 1.6 Typical manoeuvring patterns of aircraft are anticipated and a safe distance is maintained
- 1.7 Instructions or signals from pilots or staff controlling aircraft are complied with in accordance with organisational procedures

2 Facilitate safe ground support

- 2.1 Briefing on safety and tasks are received and acknowledged from task supervisor
- 2.2 Appropriate approvals and precautions are observed when positioning vehicles or equipment close to aircraft
- 2.3 Instructions from pilots and/or authorised air crew coordinating aircraft operations are followed
- 2.4 Aircraft loading and other activities relating to the aircraft, where required, are conducted under pilot or authorised air crew supervision
- 2.5 Aircraft hazards and equipment defects are reported to pilot or approved task supervisor
- 2.6 Compliance is maintained around aircraft in accordance with air base regulations

- 2.7 Accidents are identified and reported to pilot and/or task supervisor
- 2.8 Directions from pilot or air crew are followed during an emergency

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to PUAFIR209 Work safely around aircraft.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

Assessment Requirements for PUAFIR017 Work safely around aircraft

Modification History

Release 1.0 This is the first release of this unit of competency in the PUA Public Safety Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria on at least one occasion and includes

- applying Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) organisational requirements
- complying with regulatory requirements and organisational procedures
- ensuring safety and quality procedures are applied
- following directions from pilot or air crew during an emergency
- identifying hazards and risks and acting to minimise, mitigate, control or eliminate
- implementing precautions and aviation emergency procedures, as required
- participating in briefings
- reporting accidents
- using personal protective clothing and equipment
- working safely around aircraft.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria and includes knowledge of

- actions to be taken in the event of an emergency
- air base site hazards
- airbase access and security requirements
- airbase layout, facilities and services including working zones and lighting facilities
- aircraft design features including 'no step' places
- aircraft features and movement characteristics
- aircraft operations including loading and refuelling precautions
- content of briefings
- correct selection, fitting and wearing of personal protective clothing and equipment for tasks to be performed
- hazards of working around aircraft
- organisational policies and procedures including safe work practices around aircraft
- risk identification and mitigation processes

- roles and responsibilities of personnel supervising, managing and supporting aircraft operations
- safety equipment including fire extinguisher and first aid kit
- types of aircraft which may include but is not limited to aeroplanes, helicopters, remotely piloted aircraft and their movement characteristics
- Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) organisational requirements.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in operational situations or in simulated operational training situations that reflect workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to

- a range of exercises, case studies and/or simulations
- appropriate materials, equipment, tools and personal protective clothing and equipment currently used in industry
- applicable documentation including organisational procedures, standards, equipment specifications, regulations, codes of practice and operational manuals.

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

PUAFIR201 Assist with prescribed burning

Modification History

Release 1. This is the first release of this unit of competency in the PUA Public Safety Training Package.

Application

This unit of competency involves the skills and knowledge required to assist with prescribed burning for agricultural, natural resource purposes or hazard mitigation.

Prescribed burning is the process of planning and applying fire to a predetermined area under specific environmental conditions to achieve a desired outcome. It requires the ability to assist with preparations for the burn, support the conduct of the burn and participate in clean up activities.

The unit applies to personnel participating in lighting and conducting prescribed burns under direct supervision.

The fire sector is those sections of government departments, statutory authorities or organisations that have responsibility under jurisdictional arrangements for the delivery of firefighting and fire management services.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

It is essential that the prerequisite units listed below are obtained prior to the issuance of this unit to individuals within the fire sector or the units contributing to the attainment of a fire qualification.

PUAFIR210 Prevent injury

Competency Field

Fire

Unit Sector

Fire

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1 Assist with preparations for burn

1.1 Ignition devices and fire equipment to be used in the burn are prepared for use, as directed

1.2 Safety equipment including personal protective equipment, is checked and prepared for use

1.3 Location and extent of the burn is discussed and clarified with supervisor

1.4 Strategies and tactics for conducting the burn, including contingency plans are obtained in a briefing and clarification is sought, if required

1.5 Assets requiring protection during the burn are recognised and noted

1.6 Personal role, crew activities and extent of the burn are checked with supervisor

2 Participate in conducting burn

2.1 Assistance with pre-burn checks is provided, as directed by supervisor

2.2 Burn ignition activities are undertaken using ignition devices, as directed

2.3 Ignition patterns suitable for burn objectives are implemented, as directed

2.4 Fire suppression activities are undertaken using suppression equipment, in accordance with organisational procedures

2.5 Problems or concerns during the burn are raised with supervisor

2.6 Communication is maintained with team members and supervisor at all times, in accordance with organisational procedures

2.7 Conditions at the burn are observed and their effect on fire behaviour and development are reported to supervisor

2.8 Safe escape route or refuge is discussed and maintained, in accordance with organisational procedures

- 2.9** Personal protective clothing and equipment is utilised throughout the burn, in accordance with organisational procedures
- 2.10** Burn perimeter is made safe, in accordance with burn plan
- 2.11** Hazards remaining in the burn area are reported to supervisor
- 2.12** Burn debriefing is participated in
- 3 Participate in clean up and burn security**
- 3.1** Clean up and burn security activities are carried out as directed
- 3.2** Personal protective clothing and equipment is cleaned and returned to storage
- 3.3** Equipment used in the burn is cleaned, maintained and returned to storage

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

- ignition devices must include one or more of the following
- drip torch
 - incendiary devices
 - matches
- fire suppression equipment must include one or more of the following
- hand tools
 - hose
 - knapsack
 - other burn preparation equipment
 - small gear pump
 - tanker
- clean up and burn security activities must include one or more of the following
- burn security activities
 - maintenance of ignition equipment
 - maintenance of personal protective clothing and equipment

- maintenance of suppression equipment
- use of vehicles to patrol until the burn is declared safe

Unit Mapping Information

This unit replaces and is equivalent to PUAFIR213 Assist with prescribed burning.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

Assessment Requirements for PUAFIR201 Assist with prescribed burning

Modification History

Release 1. This is the first release of this unit of competency in the PUA Public Safety Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions on at least one occasion and includes

- aiding clean up activities
- assisting with preparations for prescribed burn including undertaking pre-burn checks
- assisting in lighting a burn using the relevant equipment
- applying Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) requirements
- communicating with supervisor and team members
- discussing safe escape routes and refuges
- following directions and responding to instructions given during a prescribed burn
- participating in conducting prescribed burn including recognition of assets requiring protection
- participating as a team member using safe work practices
- participating in briefings and debriefings
- using equipment in burn preparation and suppression activities
- undertaking clean up and burn security activities
- working with personal protective clothing and equipment

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions and includes knowledge of

- assets requiring protection
- clean up activities and burn security activities
- fire hazards
- impact of conditions at prescribed burns on potential fire behaviour including weather, terrain and fuel characteristics
- organisational documentation, policies and procedures
- personal protective clothing and equipment

- types of burn ignition devices and techniques
- types of preparation and burn suppression equipment and techniques
- Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) organisational requirements including risk mitigation and working safely around fires

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in industry approved simulated workplace operational situations that reflect workplace conditions.

Resources for assessment must include access to

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, equipment, tools and personal protective clothing and equipment currently used in industry including
 - burn preparation suppression equipment
 - ignition equipment
 - range of controlled fires or prescribed burns
- applicable documentation including organisational procedures, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

PUAFIR203 Respond to urban fire

Modification History

Release 1. This is the first release of this unit of competency in the PUA Public Safety Training Package.

Application

This unit of competency involves the skills and knowledge required to respond to an urban fire where offensive and defensive strategies are used. It includes proceeding to a fire, preparing extinguishing media and/or equipment for use, entering a structure, conducting search and rescues and combatting fires.

The unit applies to firefighting personnel who work as a member of a team, under direct supervision. Work at this level is undertaken under direct supervision, and with instruction.

The fire sector is those sections of government departments, statutory authorities or organisations that have responsibility under jurisdictional arrangements for the delivery of firefighting and fire management services.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

It is essential that the prerequisite units listed below are obtained prior to the issuance of this unit to individuals within the fire sector or the units contributing to the attainment of a fire qualification.

PUAFIR207 Operate breathing apparatus open circuit

Competency Field

Fire

Unit Sector

Fire

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential Performance criteria describe the performance needed to

outcomes.	demonstrate achievement of the element.
1 Proceed to fire	1.1 Information received about the location and type of fire is confirmed
	1.2 Appropriate personal protective clothing and equipment is donned, in accordance with organisational procedures
	1.3 Most effective route to the fire is identified and navigated safely
2 Prepare extinguishing media and/or equipment for use	2.1 Water supplies at the incident to support firefighting are located
	2.2 Equipment to access and supply water to firefighting operations are identified and assembled, in accordance with organisational procedures
	2.3 Nominated extinguishing media and/or equipment is identified, obtained and accessed
	2.4 Extinguishing media and equipment are used, in accordance with manufacturers' specifications and organisational procedures
3 Enter the structure	3.1 Hazards are identified, monitored and controlled, in accordance with organisational procedures
	3.2 Personal protective clothing and equipment selected is appropriate to the hazards
	3.3 Organisational breathing apparatus procedures and safe work practices are followed
	3.4 Structure is entered, in accordance with organisational procedures and safety practices
	3.5 Safe paths of access and egress are identified and maintained throughout the incident
	3.6 Life is protected and damage to property and the environment is minimised, in accordance with organisational procedures
4 Conduct search and rescue	4.1 Systematic primary and secondary searches are conducted
	4.2 Rooms are searched and marked, in accordance with organisational procedures

- 4.3 Casualties are located, assisted and rescued, in accordance with organisational procedures
 - 4.4 Fatalities are located and protected, in accordance with organisational procedures and relevant legislation
 - 4.5 All persons are accounted for and information is reported utilising the organisations chain of command.
- 5 Combat fires**
 - 5.1 Personal safety is maintained, in accordance with organisational procedures and workplace health and safety guidelines
 - 5.2 Organisational firefighting objectives, strategies and tactics are received, confirmed and implemented as directed
 - 5.3 Firefighting considerations are taken into account when implementing firefighting tactics
 - 5.4 Equipment and extinguishing media used to combat the fire are appropriate to the class of fire and support firefighting requirements
 - 5.5 Firefighting equipment is positioned to achieve maximum effect in suppressing the fire, protecting exposures and preserving evidence of fire cause
 - 5.6 Extinguishing media is applied using appropriate application techniques
 - 5.7 Fire suppression techniques are applied to minimise hazards to occupants trapped or lost within the structure
 - 5.8 Communication with team members and the supervisor are maintained throughout the incident
- 6 Observe and react to changes in conditions and fire behaviour**
 - 6.1 Changing conditions at the fire are observed and their effects on fire behaviour are noted and reported
 - 6.2 Evidence of changing conditions at the fire are reported
 - 6.3 Firefighting tactics are adapted to meet changing conditions and fire behaviour
- 7 Participate in ancillary operations**
 - 7.1 Ancillary activities to complement firefighting operations and prevent further damage to the structure and its contents are undertaken

- | | |
|---|---|
| 8 Conclude firefighting operations | <p>7.2 Water runoff from the fire is monitored and conditions are reported</p> <p>7.3 Damage to the environment at the incident is minimised through appropriate firefighting and ancillary activities</p> <p>8.1 Firefighting equipment is collected and stowed at the incident</p> <p>8.2 Incident scene is made safe for the public</p> <p>8.3 Defective or missing equipment is identified and reported</p> <p>8.4 Incident information is record and completed, in accordance with organisational procedures</p> |
|---|---|

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

types of fire must include

- fires involving dangerous goods and/or hazardous substances
- mobile property
- non-structures
- structures

personal protective clothing and equipment must include

- breathing apparatus
- eye protection
- hearing protection
- turnout uniform and gloves

water supplies must include

- open
- reticulated
- static

equipment must include

- and may also include other extinguishing substances
- BA and control equipment
- branches, nozzles and monitors

- extinguishing media must include:
- fire extinguishers
 - forcible entry tools
 - hoses and hose fittings
 - ladders and rope lines
 - portable lights
 - radios
 - salvage gear
 - small gear and ancillary equipment
 - standpipes, hydrants and booster connections
- hazards must include three or more of the following:
- extinguishing powder
 - foam
 - gaseous extinguishing agents
 - water
 - electricity, including photovoltaic generation
 - gas
 - hazardous products and materials
 - industrial (machinery, equipment and products)
 - smoke, darkness and heat
 - structural collapse
 - structural hazards
 - unauthorised personnel
- assisted must include
- first aid
 - handing over to ambulance, medical or other organisational care
 - protecting from the elements
 - providing refreshments
- firefighting objectives must include
- confining the spread of fire
 - extinguishment
 - protecting exposures
 - rescuing occupants
 - salvage and overhaul
 - ventilation
- fire strategies must include
- defensive mode
 - direct attack
 - indirect attack
 - offensive mode
- firefighting tactics must include
- cooling the fuels
 - excluding oxygen
 - interrupting the chemical chain reaction
 - removing fuels

firefighting considerations must include

- ventilation
- available firefighting resources
- extinguishing media
- fire exposures
- indications of extreme fire behaviour
- signs of structural collapse
- size of fire
- stage of fire development
- topography
- type of fire
- weather

firefighting activities must include

- anticipating fire behaviour
- applying extinguishing media
- applying techniques to maximise effect and minimise damage
- ensuring safety
- hose stream techniques
- locating and accessing fire
- protecting and notifying supervisor of evidence of fire cause
- search and rescue

changing conditions at the fire must include

- fire spread
- flame colour and size
- impending structural collapse
- increase in heat
- increase or decrease in fuel available to fire
- increase or decrease in heat of fire
- increase or decrease in oxygen available to fire
- other materials becoming involved in fire
- signs of structural collapse
- smoke colour
- weather conditions

evidence of changing conditions at the fire must include

- fire spread
- flame colour and size
- impending structural collapse
- increase in heat
- smoke colour
- weather conditions

ancillary activities must include

- damming water run off
- guarding against hazards
- making up equipment

recording appropriate incident information must include

- overhaul
- salvage
- securing the area
- attendance records
- completing personal notebooks logs and/or report forms
- equipment used
- objectives set
- obtain relevant details
- owner or occupant details
- problems encountered

Unit Mapping Information

This unit replaces and is equivalent to PUAFIR203B Respond to urban fire.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

Assessment Requirements for PUAFIR203 Respond to urban fire

Modification History

Release 1. This is the first release of this unit of competency in the PUA Public Safety Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions on at least one occasion and includes

- applying Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) requirements including maintaining the health and safety of self and others
- combating fires through implementing firefighting objectives, strategies and tactics
- concluding firefighting operations
- conducting search and rescue
- controlling fire environment by cooling fire gases
- entering structures affected by fire
- identifying hazardous materials
- instigating actions to avoid risk of injury
- moving in smoke and darkness
- observing and reacting to changes in conditions and fire behaviour
- obtaining water from reticulated or static water supplies
- operating a firefighting branch
- operating fire extinguishers
- participating in ancillary operations
- preparing extinguishing media and equipment for use
- proceeding to a fire
- recording incident information
- selecting and using firefighting equipment
- using extinguishing media on a fire
- using personal protective clothing and equipment
- using structural entry techniques
- utilising breathing apparatus, associated equipment and operational procedures

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions and includes knowledge of

- ancillary activities
- basic signs of fire cause and activities for protecting evidence
- behaviour of a building or structure in a fire
- chain of command
- change in conditions at a fire caused by increase or decrease in
 - fuel available to fire
 - increase or decrease of oxygen available to fire
- different construction types and their behaviour in a fire
- equipment and tools used in fire suppression activities extinguishing media
- fire behaviour
- fire ground signals including audible and visual
- fire tetrahedron
- firefighting foams
- firefighting tasks, tactics and techniques
- hazardous materials identification
- hazards and actions to minimise, mitigate, control or eliminate
- identification of various building types including structural elements and materials, causes and signs of structural failure
- methods of heat transfer
- natural ventilation procedures
- navigation and map reading
- organisational documentation, policies and procedures including procedures for working with ladders, ropes, lines and tying knots
- portable fire extinguishers
- principles and methods of extinguishment
- salvage and overhaul
- signs of structural collapse
- water supplies
- Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) organisational requirements including safety assessments and/or risk mitigation processes, safe work practices and personal protective clothing and equipment

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in industry approved simulated workplace operational situation that reflects workplace conditions.

Competency should be assessed on the job and/or in a range of simulated fire environments.

Resources for assessment must include access to

- a range of relevant exercises, case studies and/or simulations
- a relevant appropriate materials, equipment, tools and personal protective clothing and equipment currently used in industry including
 - range of controlled or simulated fires, firefighting equipment, extinguishing media and breathing apparatus and associated equipment
- applicable documentation including organisational procedures, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

PUAFIR204 Respond to wildfire

Modification History

Release 1. This is the first release of this unit of competency in the PUA Public Safety Training Package.

Application

This unit of competency involves the skills and knowledge required to respond to a wildfire, work as a safe and situationally aware member of a crew to attack and extinguish a fire, participate in mop ups and patrol operations and prepare equipment for the next crew.

The unit applies to firefighting personnel who work as a member of a team. It includes preparing to respond to fire; proceeding to fire; obtaining and using firefighting equipment and extinguishing media; combating wildfire; observing and reacting to wildfire and weather conditions; participating in mop up and patrol activities; supporting operations and recovering and storing equipment. Work at this level is undertaken under direct supervision, and with instruction.

The fire sector is those sections of government departments, statutory authorities or organisations that have responsibility under jurisdictional arrangements for the delivery of firefighting and fire management services.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

It is essential that the prerequisite units listed below are obtained prior to the issuance of this unit to individuals within the fire sector or the units contributing to the attainment of a fire qualification.

PUAFIR210 Prevent injury

Competency Field

Fire

Unit Sector

Fire

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

- | | |
|--|---|
| 1 Prepare to respond to fire | <p>1.1 Information received about the location and type of wildfire is confirmed</p> <p>1.2 Most effective route to the fire is identified and navigated safely</p> <p>1.3 Appropriate personal protective clothing and equipment is donned, in accordance with organisational procedures</p> |
| 2 Proceed to fire | <p>2.1 Location of the fire and type of fuel is confirmed on approach</p> <p>2.2 Life is protected and damage to property and the environment is minimised, in accordance with organisational procedures</p> <p>2.3 Evidence relevant to fire cause is noted and reported utilising the organisations chain of command, in accordance with organisational procedures</p> <p>2.4 Indicators of fire behaviour are observed and reported</p> |
| 3 Obtain and use firefighting equipment and extinguishing media | <p>3.1 Nominated extinguishing media and/or firefighting equipment are located and obtained</p> <p>3.2 Extinguishing media and equipment are used, in accordance with manufacturers' specifications and organisational procedures</p> |
| 4 Combat wildfire | <p>4.1 Instructions are received, firefighting strategies and tactics are confirmed and implemented</p> <p>4.2 Suppression techniques, equipment and extinguishing media appropriate to wildfire conditions are used</p> <p>4.3 Control lines are prepared as directed</p> <p>4.4 Equipment is positioned, made ready for use and protected from damage</p> <p>4.5 Fire is attacked taking into account wildfire hazards as directed</p> |

- | | | |
|---|------------|---|
| | 4.6 | Evidence of fire cause and area of fire origin are protected |
| | 4.7 | Communication is maintained at all times with all personnel |
| 5 Observe and react to wildfire and weather conditions | 5.1 | Changing conditions at the fire are observed and their effects on fire behaviour are noted and reported |
| | 5.2 | Weather conditions and changes to fire behaviour are observed and reported |
| | 5.3 | Variations in topography, fuel features and fuel arrangements are observed and reported |
| | 5.4 | Escape routes and safety zones are confirmed and maintained throughout the incident |
| | 5.5 | Communication is maintained with other firefighting personnel throughout operational activities |
| 6 Participate in mop up and patrol activities and support operations | 6.1 | Mopping up activities are carried out, as directed |
| | 6.2 | Patrol of the perimeter or sector of the fire is maintained, as directed |
| | 6.3 | Activities to support firefighting operations are carried out, as directed |
| 7 Recover and store equipment | 7.1 | Equipment and consumables are recovered, as directed |
| | 7.2 | Firefighting equipment is collected and stored at the incident |
| | 7.3 | Cleaning and maintenance are carried out in accordance with organisational procedures |
| | 7.4 | Damaged or lost equipment is identified and reported |

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

extinguishing media must include two of the following

- class A foam
- retardants
- soil
- water
- wetting agents

personal protective clothing and equipment must include

- eye and head protection
- turnout uniform and gloves

types of wildfire must include

- surface

types of fuel must include one of the following

- forest
- grass
- scrub

firefighting equipment must include

- hand tools
- hose and small gear
- pump
- tanker

firefighting tactics must include

- control line construction
- mopping up
- patrol
- use of extinguishing media

suppression techniques must include

- dry and wet firefighting

Unit Mapping Information

This unit replaces and is equivalent to PUAFIR204B Respond to wildfire.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

Assessment Requirements for PUAFIR204 Respond to wildfire

Modification History

Release 1. This is the first release of this unit of competency in the PUA Public Safety Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions on at least one occasion and includes

- applying Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) requirements
- combating wildfires
- communicating on the fire ground using a range of tools
- detecting hot spots, hazardous trees, unsecured wildfire perimeter
- maintaining situational awareness
- maintaining health and safety of self and others in work area
- observing and reacting to wildfire and weather conditions
- obtaining and using firefighting equipment and extinguishing media
- participating in mop ups, patrol activities and support operations
- participating in entrapment safety procedures
- preparing to respond to a fire
- proceeding to a fire
- reacting to changing wildfire behaviour due to changes in weather, topography and fuel conditions
- recovering, reinstating and storing equipment
- undertaking dry and wet wildfire attack
- undertaking operational activities safely, in accordance with organisational procedures
- using extinguishing media in wildfire control
- using wildfire control tools and equipment
- working with firefighting equipment
- working as a member of a team

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions and includes knowledge of

- communication on the fire ground using radio and telephone

- consumables including flagging tape, fuel, rubbish and signs
- extinguishing media, water, foam and suppressants
- escape routes including prepared tracks, roads, trails and waterways
- earth moving equipment such as bulldozers, graders and tractors with blades
- equipment for firefighting including chainsaw, ropes and lines, drip torch and knap sack
- evidence related to fire cause including fresh vehicle tracks, items or objects at scene, nature and behaviour of fire at the scene upon arrival, nature and colour of smoke and number of columns, people and vehicles leaving the scene and whether gates on access routes to the fire were closed, opened or locked
- fire behaviour
- fuel features including arrangement and distribution, moisture content, quantity, size and type
- indicators of fire behaviour including flame height and length, noise, rate of spread, smoke colour and density, spotting and extreme fire behaviour
- organisational documentation, policies and operating procedures
- safety zones including bare ground, burnt areas, clearings, rivers and site of recent wildfire or prescribed burn, static water bodies and defensible space
- support operations including providing and transporting food, water and equipment
- tactics for firefighting including backburning, burning out and patrol
- types of wildfire including crown and ground
- types of fuel including crop, heath, peat, coal, combustible soils and plantation
- strategies for firefighting including defensive, direct and indirect attack, offensive and parallel attack
- variations in topography including aspect, elevation, landscape features and slope
- weather conditions including atmospheric stability, relative humidity, temperature and variations to wind speed and direction
- wildfire control tactics and techniques
- wildfire hazards
- Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) organisational requirements including health and fitness requirements, hygiene and wellbeing, safe work practices, safety assessments and risk mitigation

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in industry approved simulated workplace operational situations that

reflect workplace conditions.

Resources for assessment must include access to

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, equipment, tools and personal protective clothing and equipment currently used in industry
- applicable documentation including organisational procedures, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

PUAFIR205 Respond to aviation incident (specialist)

Modification History

Release 1. This is the first release of this unit of competency in the PUA Public Safety Training Package.

Application

This unit of competency involves the skills and knowledge required to work under supervision as a member of a specialist aviation incident response team while responding to an aviation event. It applies to personnel who are members of specialist aviation incident response teams.

The fire sector is those sections of government departments, statutory authorities or organisations that have responsibility under jurisdictional arrangements for the delivery of firefighting and fire management services.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

It is essential that the prerequisite units listed below are obtained prior to the issuance of this unit to individuals within the fire sector or the units contributing to the attainment of a fire qualification.

PUAFIR203 Respond to urban fire

Competency Field

Fire

Unit Sector

Fire

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Respond to aircraft incident

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Approach to aircraft incident is based on type of accident or collision, location, terrain, weather, wind

- speed, direction and response time requirements
- 1.2** Hazards and personal injury risks associated with aircraft incidents and/or accidents are identified
 - 1.3** Access to incident is gained through use of airport maps and aircraft diagrams or plans
 - 1.4** Changing incident conditions are anticipated, reported and managed, in accordance with organisational procedures
 - 1.5** Operations are carried out, in accordance with organisational procedures and regulatory requirements
- 2 Use appropriate equipment**
- 2.1** Equipment is selected, in accordance with incident objectives and strategies
 - 2.2** Appropriate rescue and/or firefighting equipment is selected and used, in accordance with organisational procedures
 - 2.3** Appropriate equipment is selected and used to isolate aircraft fuselage from hazards and escape paths are maintained, in accordance with organisational procedures
- 3 Evacuate persons and attend to casualties**
- 3.1** Hazards and injury risks associated with aircraft incidents are identified and reported
 - 3.2** Equipment is selected and located to facilitate evacuation and rescue
 - 3.3** Evacuees are directed to a safe area and casualties are attended to
- 4 Conduct operations**
- 4.1** Operational tactics are implemented based on incident conditions, in accordance with organisational procedures
 - 4.2** Changing incident conditions are evaluated and any alterations to tactics are communicated, in accordance with organisational procedures
 - 4.3** Operations are carried out, in accordance with industry regulatory requirements
 - 4.4** Fuselage protection and escape paths are established and maintained, in accordance with organisational procedures

- 4.5 Assistance to passengers and crew is provided during aircraft evacuation
 - 4.6 Evacuees and or casualties are moved or directed to a safe area, in accordance with organisational procedures and Aerodrome Emergency Plan
 - 4.7 Appropriate rescue techniques are used to release trapped persons from aircraft
- 5 Conclude operations**
- 5.1 Evidence at aircraft incident is preserved and secured, in accordance with organisational procedures
 - 5.2 Any damage to the aircraft caused by forcible entry is recorded and reported, in accordance with organisational procedures and legislative requirements

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to PUAFIR205B Respond to aviation incident (specialist).

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

Assessment Requirements for PUAFIR205 Respond to aviation incident (specialist)

Modification History

Release 1. This is the first release of this unit of competency in the PUA Public Safety Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria on at least one occasion and includes

- adhering to airport operating procedures
- applying Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) requirements including identifying toxic environments
- conducting and concluding operations
- evacuating persons and attending to casualties
- identifying hazards and undertaking risk assessment
- implementing aviation firefighting objectives and tactics and strategies
- meeting legislative and regulatory requirements
- responding to an aviation incident
- selecting and using aviation firefighting equipment, extinguishing media and personal protective clothing and equipment
- using appropriate equipment
- using strategies including controlling and extinguishing fire, isolation of aircraft fuselage from hazard and maintenance of safe paths of egress
- working with aviation firefighting equipment including
 - aircraft rescue and firefighting vehicle
 - ancillary firefighting equipment
 - apparatus to deliver extinguishing medium
 - breathing apparatus
 - equipment for lighting
 - escape safety devices
 - extrication devices
 - fire hose
 - fixative or sealant for composite fibres
 - ladders
 - rescue equipment
 - specialised tools for cabin entry
 - ventilation equipment

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions and includes knowledge of

- aircraft construction
- aircraft and airport emergency procedures
- characteristics and limitations of equipment
- incident objectives, strategies and tactics
- organisational documentation, policies and procedures
- potential hazards and risk mitigation
- types of aviation incidents
- types of aviation accidents and incidents including aircraft incidents, equipment, strategies and operational tactics
- Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) organisational requirements

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in industry approved simulated workplace operational situations that reflect workplace conditions.

Resources for assessment must include access to

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, equipment, tools and personal protective clothing and equipment currently used in industry including
 - firefighting equipment, aircraft or simulator and fire extinguishing media
- applicable documentation including organisational procedures, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

PUAFIR207 Operate breathing apparatus open circuit

Modification History

Release 2.0 This is the second release of this unit of competency in the PUA Public Safety Training Package.

Editorial update.

Release 1.0 This is the first release of this unit of competency in the PUA Public Safety Training Package.

Application

This unit of competency involves the skills and knowledge required to select, don, operate and maintain breathing apparatus equipment in a hazardous atmosphere. It includes conducting pre-donning checks and tests of breathing apparatus; donning and checking of breathing apparatus; operating breathing apparatus and concluding breathing apparatus operations.

The unit applies to personnel who work as a member of a team. Work at this level is undertaken under direct supervision and instruction.

The fire sector is those sections of government departments, statutory authorities or organisations that have responsibility under jurisdictional arrangements for the delivery of firefighting and fire management services.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

It is essential that the prerequisite units listed below are obtained prior to the issuance of this unit to individuals within the fire sector or the units contributing to the attainment of a fire qualification.

PUAFIR210 Prevent injury

Competency Field

Fire

Unit Sector

Fire

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1 Conduct pre-donning checks and tests on breathing apparatus

1.1 Breathing apparatus is inspected for immediate use, in accordance with the organisational procedures

1.2 Faulty or damaged equipment is reported and recorded, in accordance with the organisational procedures

2 Don and check breathing apparatus

2.1 Breathing apparatus is donned, in accordance with the organisational procedures

2.2 Breathing apparatus is started and checked, in accordance with organisational procedures

2.3 Ancillary equipment required for tasks is selected for use

3 Operate breathing apparatus

3.1 Hazards are identified, monitored and controlled, in accordance with the organisational procedures

3.2 Communication is established and maintained with team members and other appropriate personnel throughout activity

3.3 Response activities are undertaken as a member of a team, demonstrating effective application of breathing apparatus, in accordance with the organisational procedures

3.4 Breathing apparatus control procedures are followed, in accordance with the organisational procedures

3.5 Entrapment procedures are implemented, in accordance with the organisational procedures

3.6 Personal safety is maintained, in accordance with organisational procedures

4 Conclude operations

4.1 Breathing apparatus set is shut down, in accordance with organisational procedures

4.2 Breathing apparatus set is removed, in accordance with organisational procedures

4.3 Cleaning and maintenance of breathing apparatus is

undertaken, in accordance with organisational procedures

4.4 Equipment is made ready for operational use, in accordance with organisational procedures

4.5 Participating in debriefing sessions

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

type of breathing apparatus must include

- open circuit

breathing apparatus is inspected must include

- ancillary equipment
- cylinder pressure
- integrity of air flow system
- serviceability and integrity of components

breathing apparatus control procedures must include

- entry or exit control officer
- entry or exit control point
- organisational procedures
- principles of breathing apparatus control
- stage one (one entry point) and stage two (multiple entry points)
- timing device

breathing apparatus control equipment must include

- breathing apparatus set tallies
- control boards
- entry control officer identification
- guideline and branch line tallies
- personal lines
- procedures

hazards must include

- disorientation in smoke/darkness or confinement
- entrapment
- exhaustion of air supply (regular gauge monitoring)

communications must include

entrapment procedures must include

- failure to maintain a face seal
- fire
- hazardous atmospheres
- malfunction of equipment
- manual handling
- structural hazards and/or hazardous materials
- distress signal unit
- hand signals
- portable radio
- activating the distress signal unit
- calling for assistance
- ceasing all strenuous activity
- operating breathing apparatus
- relocating to safest available place
- remaining calm

Unit Mapping Information

This unit replaces and is equivalent to PUAFIR207B Operate breathing apparatus open circuit.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

Assessment Requirements for PUAFIR207 Operate breathing apparatus open circuit

Modification History

Release 2.0 This is the second release of this unit of competency in the PUA Public Safety Training Package.

Editorial update.

Release 1.0 This is the first release of this unit of competency in the PUA Public Safety Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions on at least one occasion and includes

- applying Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) organisational requirements
- conducting pre-donning checks and tests on breathing apparatus
- donning and checking breathing apparatus
- following organisational policies and procedures including implementing entrapment and breathing apparatus emergency procedures
- inspecting breathing apparatus after its use
- inspecting breathing apparatus and concluding breathing apparatus operations
- moving in conditions of reduced visibility
- operating breathing apparatus
- participating in debriefing sessions
- returning breathing apparatus to operational status
- complying with organisational procedures for breathing apparatus use and maintenance

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions and includes knowledge of

- characteristics, component parts, operation of compressed air breathing apparatus
- how breathing apparatus supports personal protection
- industry standards for breathing apparatus
- operation of breathing apparatus
- operational testing, operating procedures and safe work practices when wearing breathing apparatus

- organisational documentation, policies and procedures including entrapment procedures
- performance of breathing apparatus control equipment
- personal protective clothing and equipment
- respiratory system and effects of hazardous atmospheres on the body
- types of hazardous atmospheres including heated, smoke or other suspended particles
- use of personal lines and tallies
- utilisation of distress signal unit
- Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) organisational requirements including safety assessments and risk mitigation

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in operational situations or in simulated operational training situations that reflect workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, equipment, tools and personal protective clothing and equipment currently used in industry including
 - range of controlled or simulated scenarios, breathing apparatus and associated equipment
- applicable documentation including organisational procedures, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

PUAFIR210 Prevent injury

Modification History

Release 1. This is the first release of this unit of competency in the PUA Public Safety Training Package.

Application

This unit involves the skills and knowledge required to identify and avoid workplace hazards and risks, to maintain personal safety and to report identified issues to supervisors and team members.

It is designed as an introduction to safe work practices and is specifically relevant to a workplace requiring personnel to be involved in incidents, prescribed burns and/or operational aspects of emergency management. It includes identifying, implementing and monitoring effectiveness of workplace hazards and risk control procedures.

The unit applies to personnel who work as a member of a team. Work at this level is undertaken under direct supervision and instruction.

The fire sector is those sections of government departments, statutory authorities or organisations that have responsibility under jurisdictional arrangements for the delivery of firefighting and fire management services.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Competency Field

Fire

Unit Sector

Fire

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential Performance criteria describe the performance needed to

outcomes.

demonstrate achievement of the element.

1 Identify workplace hazards and risks, and advise others

- 1.1 Procedures and practices are followed to identify hazards and risks in the workplace
- 1.2 Identified hazards and risks in the work area are communicated to team members and supervisors
- 1.3 Identified risk factors which may create or escalate the immediate risk to life, property or the environment are reported, in accordance with organisational procedures

2 Implement hazard and risk control procedures

- 2.1 Personal protective clothing and equipment is selected and donned, in accordance with organisational procedures
- 2.2 Hazard identification and risks controls are implemented, in accordance with Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) guidelines and organisational procedures
- 2.3 Equipment appropriate for dealing with a hazard is selected for use and checked, in accordance with organisational procedures
- 2.4 Personal health and welfare is managed, in accordance with organisational policy

3 Monitor effectiveness of hazard and risk control procedures

- 3.1 Situation awareness is maintained to ensure the continued effectiveness of hazard and risk control procedures
- 3.2 Changes in incident behaviour and conditions are reported immediately through the chain of command, in accordance with organisational procedures
- 3.3 Activities and debriefings regarding hazard and risk control procedures are participated in, as appropriate

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work

environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

personal protective clothing and equipment must include

- eye and head protection
- turn out uniform and gloves

controlling risks must include

- dynamic risk assessment
- safe person approach

Unit Mapping Information

This unit replaces and is equivalent to PUAFIR215 Prevent injury.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

Assessment Requirements for PUAFIR210 Prevent injury

Modification History

Release 1. This is the first release of this unit of competency in the PUA Public Safety Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions on at least one occasion and includes

- applying safe work practices in accordance with organisational Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) policies and procedures
- identifying hazards and using risk control measures
- identifying workplace hazards and risks and advising others
- implementing hazard and risk control procedures
- monitoring effectiveness of hazard and risk control procedures
- selecting equipment pertinent to incidents, prescribed burning and/or operational aspects of emergency management
- working with organisational procedures including the selection and use of personal protective equipment

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions and includes knowledge of

- basic principles of a dynamic risk assessment and safe person approach
- hazards, including heat illness, fire, structural, aerial operations, hazardous materials and vehicles
- methods of hazard identification, risk control reporting and debriefing
- organisational documentation, policies and procedures for hazard and risk management
- personal protective clothing and equipment requirements
- risks to life, community, property and the environment
- situational awareness actions that support safety in the work place
- Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) organisational requirements including occupational hazards and risks encountered in the workplace, safety assessments, risk mitigation processes and risk control measures such as eliminate, isolate and substitute

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in industry approved simulated workplace operational situations that reflect workplace conditions.

Resources for assessment must include access to

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, equipment, tools and personal protective clothing and equipment currently used in industry
- applicable documentation including organisational procedures, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

PUAFIR220 Respond to isolated structure fire

Modification History

Release 1. This is the first release of this unit of competency in the PUA Public Safety Training Package.

Application

This unit of competency involves the skills and knowledge required to respond to an isolated structure fire when working as a member of a team under direct supervision. It includes defensive external structural firefighting i.e. how to attack a fire from outside a structure and protect exposures. It does not cover offensive firefighting i.e. internal attack within a structure or how to deal with fires involving dangerous goods and/or hazardous chemicals.

An isolated structure refers to a free standing building or manmade construction, such as a homestead or farm machinery shed. With an isolated structure, the possibility of fire spread between the structure itself and other structures or property not directly involved in the fire is generally low.

The unit applies to personnel working in rural and/or urban interface areas and rural communities who are often required to respond to structure fires and to support asset protection. An individual operating in this context will perform this role under the direct supervision of a crew leader or an officer in charge.

The fire sector is those sections of government departments, statutory authorities or organisations that have responsibility under jurisdictional arrangements for the delivery of firefighting and fire management services.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

It is essential that the prerequisite units listed below are obtained prior to the issuance of this unit to individuals within the fire sector or the units contributing to the attainment of a fire qualification.

PUAFIR210 Prevent injury

Competency Field

Fire

Unit Sector

Fire

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Proceed to fire

2 Prepare extinguishing media and/or equipment for use

3 Combat fires

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1 Information received about location and type of fire is recorded, in accordance with organisational procedures
- 1.2 Appropriate personal protective clothing and equipment is donned, in accordance with organisational procedures
- 1.3 Most effective route to the fire is identified
- 2.1 Water supplies at the incident to support firefighting are located
- 2.2 Equipment to access and supply water to firefighting operations is identified and assembled, in accordance with organisational procedures
- 2.3 Nominated extinguishing media and/or equipment is identified, obtained and or accessed
- 3.1 Personal safety is maintained, in accordance with organisational procedures and Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) guidelines, for responding to isolated structure fires
- 3.2 Hazards are identified and reported to supervisors, in accordance with organisational procedures
- 3.3 Firefighting strategies are implemented through the chain of command, in accordance with organisational procedures
- 3.4 Safe escape routes are identified confirmed and maintained in accordance with organisational procedures
- 3.5 Access to location of fire is gained and protecting life and minimising damage to the environment and property is undertaken, in accordance with organisational

- procedures
- 3.6** Extinguishing media and equipment are used, in accordance with manufacturers' specifications and organisational procedures
 - 3.7** Communication with team members and supervisor is maintained throughout the incident, in accordance with organisational procedures
- 4 Observe and report changes in conditions at the fire**
- 4.1** Changing conditions at the fire are observed and effects on fire behaviour are noted and reported through the chain of command
 - 4.2** Firefighting tactics are adapted to meet changing conditions and fire behaviour
- 5 Participate in ancillary operations**
- 5.1** Ancillary activities to complement firefighting operations and to prevent further damage to structure is undertaken
 - 5.2** Assistance is given, if required, to complete and record incident information
- 6 Conclude firefighting operations**
- 6.1** Firefighting equipment is collected, reinstated and stowed, in accordance with organisational procedures
 - 6.2** Incident scene is made safe for the public
 - 6.3** Defective or missing equipment is identified and reported, in accordance with organisational procedures
 - 6.4** Participate in debriefing sessions

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

personal protective clothing and equipment must include

- head and eye protection
- personal protective clothing

equipment must include

- turnout uniform and gloves
- fire attack equipment
- small gear and ancillary equipment

extinguishing media must include

- foam
- water

Unit Mapping Information

This unit replaces and is equivalent to PUAFIR218 Respond to isolated structure fire.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

Assessment Requirements for PUAFIR220 Respond to isolated structure fire

Modification History

Release 1. This is the first release of this unit of competency in the PUA Public Safety Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions on at least one occasion and includes

- accessing location of fire
- applying defensive firefighting strategies and techniques
- applying Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) organisational requirements
- concluding firefighting operations
- identifying hazards
- identifying signs of structural collapse
- observing and reporting changes in conditions at fire
- obtaining water from reticulated and/or static water supplies
- participating in ancillary operations
- participating in debriefing sessions
- proceeding to isolated structure fire
- selecting and using firefighting equipment
- undertaking ancillary activities including assisting with damming water runoff, making up equipment and securing area
- using personal protective clothing and equipment
- utilising extinguishing media at fires

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions and includes knowledge of

- ancillary activities including damming water runoff, making up equipment and securing area
- behaviour of buildings and/or structures in a fire
- causes and signs of structural collapse
- change in conditions including weather

- changes in conditions at the fire
- damage to environment
- extinguishing media
- fire behaviour
- fire ground signals including audible and/or visual
- fire tetrahedron
- firefighting techniques including defensive strategies and tactics
- hazards including electricity, gas, hazardous materials, machinery, equipment, products, smoke, darkness, heat and structural collapse
- organisational documentation, policies and procedures including those for working with ladders, ropes and lines
- personal protective clothing and equipment
- portable fire extinguishers
- Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) organisational requirements including safe work practices and risk mitigation

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in industry approved simulated workplace operational situations that reflect workplace conditions.

Resources for assessment must include access to

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, equipment, tools and personal protective clothing and equipment currently used in industry including
 - range of controlled or simulated fires, firefighting equipment and extinguishing media
- applicable documentation including organisational procedures, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

PUAFIR303 Suppress wildfire

Modification History

Release 1. This is the first release of this unit of competency in the PUA Public Safety Training Package.

Application

This unit of competency involves the skills and knowledge required to work as a member of a crew to apply appropriate fire control strategies and safe work practices to extinguish a wildfire, participate in mop ups and patrol operations and prepare equipment for the next crew.

The unit applies to personnel who work as a member of a crew or team. Work at this level is often undertaken without direct supervision and instruction. There may be some level of supervision of other members of the crew at this level.

The fire sector is those sections of government departments, statutory authorities or organisations that have responsibility under jurisdictional arrangements for the delivery of firefighting and fire management services.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

It is essential that the prerequisite units listed below are obtained prior to the issuance of this unit to individuals within the fire sector or the units contributing to the attainment of a fire qualification.

PUAFIR204 Respond to wildfire

Competency Field

Fire

Unit Sector

Fire

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential Performance criteria describe the performance needed to

outcomes.

demonstrate achievement of the element.

- | | |
|---|--|
| 1 Receive and report details of wildfire | 1.1 Details of the wildfire including location, type, behaviour and developments are received and recorded |
| | 1.2 Fire details are reported, in accordance with organisational requirements |
| 2 Prepare to respond to fire | 2.1 Location of wildfire is confirmed and safest access route is determined |
| | 2.2 Personal protective clothing and equipment, apparel, food and water are obtained before departure, in accordance with organisational requirements |
| | 2.3 Most appropriate appliance or vehicle is selected and used |
| 3 Proceed to fire | 3.1 Location of wildfire is confirmed by observation or from instructions while on approach |
| | 3.2 Access to area is determined and achieved without injury to personnel or damage to vehicles, equipment or environmentally sensitive areas |
| | 3.3 Evidence observed on approach relevant to wildfire cause is noted and brought to the attention of appropriate authorities |
| | 3.4 Navigational aids are used for planning and operational purposes |
| | 3.5 Notification of arrival and appropriate report is provided |
| 4 Protect people and assets | 4.1 As far as conditions allow the number, location and safety of people and assets in the threatened area is determined and assessed |
| | 4.2 Appropriate protective procedures are implemented, under direction, to protect persons in the path of a wildfire |
| | 4.3 Access by the public and personnel to hazardous locations is controlled, as directed, in accordance with organisational procedures |
| | 4.4 Defensibility of property and assets is considered and, if appropriate, assistance is provided to help occupiers |
| | 4.5 Safety of people and assets in the threatened area is |

- monitored
- 4.6** Safety of people and security of assets in the area is checked and reported after the fire
- 5 Combat wildfire**
- 5.1** Briefing is received including area of operations, strategies and tactics to be employed
- 5.2** Escape routes and safety zones are confirmed and communicated to personnel
- 5.3** Firefighting media and equipment are selected and used in accordance with organisational procedures
- 5.4** Fire hazards are identified and action is taken to minimise the risks of injury to the public, personnel and self
- 5.5** Firefighting strategies and tactics are implemented to achieve objectives and to minimise overall damage and impact on assets and the environment
- 5.6** Fuel, weather and topographical factors are observed and potential fire behaviour is anticipated and acted upon to ensure safety
- 5.7** Communication is maintained with supervisor through the chain of command and with other firefighters in the work area
- 5.8** Fire control activities are undertaken to minimise overall damage and impact on assets and the environment
- 5.9** Potential fire behaviour is considered and acted upon to ensure safety and achievement of objectives
- 5.10** Fire reports are provided to supervisor, as required
- 5.11** Area of origin and evidence of fire cause are protected and brought to the attention of supervisor or relevant authority, in accordance with organisational procedures
- 6 Conduct mop up and patrol activities**
- 6.1** Mop up activities are carried out, in accordance with organisational procedures
- 6.2** Patrol of the fire is maintained
- 7 Recover and maintain equipment**
- 7.1** Equipment is made ready for operational use, in accordance with organisational procedures

- 7.2** Damaged or missing equipment is replaced, recorded and/or reported, in accordance with organisational procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

Assessment Requirements for PUA FIR303 Suppress wildfire

Modification History

Release 1. This is the first release of this unit of competency in the PUA Public Safety Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions on at least one occasion and includes

- anticipating and reacting to changing wildfire behaviour
- applying Work Health and Safety (WHS)/Occupational Health and Safety (OHS) organisational requirements
- assessing risk to life, property and the environment
- contributing to the implementation of firefighting strategies
- combating wildfires, performing firefighting tactics, and using firefighting equipment and extinguishing media
- communicating and working with team members
- conducting mop ups and patrol activities
- detecting hot spots and hazardous trees
- implementing and monitoring firefighting strategies and tactics
- interpreting fire weather, fuels and terrain and predicting likely impact on fire behaviour
- maintaining safety and health of self, other workers and people in a wildfire area
- participating in briefings and confirming instructions
- preparing to respond to wildfires, using navigation equipment
- proceeding to wildfires
- receiving, recording and reporting information

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions and includes knowledge of

- crew protective procedures
- access to wildfires
- recognition of environmentally sensitive areas and actions to minimise damage
- escape routes including prepared tracks, roads, trails and waterways
- fire behaviour and its response to different fuels, topography and weather conditions
- fire cause

- fireground hazards
- fire report requirements
- fuel types and factors that impact fire development
- media and equipment for firefighting
- means of transport to fire ground
- navigational aids including aerial photographs, compass, global positioning systems and maps
- organisational documentation, policies and procedures
- potential fire behaviour including fire development, flame height and intensity, fuel load and arrangement, rate of speed, spotting, change due to terrain, topography, changes due to weather conditions, winds and fire winds.
- protective procedures including alerts and warnings, insitu protection and relocation
- safety zones including bare ground, burnt areas, clearings, rivers, site of recent wildfire or prescribed burns and static water bodies
- strategies for firefighting including offensive strategies including direct attack, indirect attack, parallel attack and combined attack and defensive strategies including community and asset protection
- tactics for firefighting including back burning and burning out, control line construction - hand and machine and direct suppression and extinguishment
- tasks for firefighting including application of firefighting media, control line construction, mopping up and patrol
- topographical factors that affect fire development
- types of fires including crown, ground and surface
- types of assets that require protection
- weather factors that influence fire development
- Work Health and Safety (WHS)/Occupational Health and Safety (OHS) organisational requirements including risk mitigation and safety near vehicles and machines

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in industry approved simulated workplace operational situations that reflect workplace conditions.

Where this is not appropriate, assessment must occur in industry approved simulated workplace operational situations that reflect workplace conditions.

Resources for assessment must include access to

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, equipment, tools and personal protective clothing and equipment currently used in industry including
 - access to wildfire or prescribed burns and/or approved field based environment
 - firefighting equipment and extinguishing media
- applicable documentation including organisational procedures, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

PUAFIR309 Operate pumps

Modification History

Release 1. This is the first release of this unit of competency in the PUA Public Safety Training Package.

Application

This unit of competency involves the skills and knowledge required to operate a portable pump and/or appliance mounted pump at an incident.

The unit is applicable to personnel who are responsible for operating centrifugal appliance mounted pumps, portable pumps and foam systems at an incident. Typically, this work requires the application of basic principles hydraulics and involves working as a member of a team under limited supervision.

The fire sector is those sections of government departments, statutory authorities or organisations that have responsibility under jurisdictional arrangements for the delivery of firefighting and fire management services.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

It is essential that the prerequisite units listed below are obtained prior to the issuance of this unit to individuals within the fire sector or the units contributing to the attainment of a fire qualification.

PUAEQU001 Prepare, maintain and test response equipment

One of the following:

PUAFIR203 Respond to urban fire

PUAFIR220 Respond to isolated structure fire

PUAFIR204 Respond to wildfire

PUAFIR205 Respond to aviation incident

Competency Field

Fire

Unit Sector

Fire

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1 Prepare pump to deliver water

- 1.1** Type of pump and hose selected is appropriate to the operation and/or incident
- 1.2** Suitability of water supply for operational purposes is determined
- 1.3** Pump is sited and positioned to receive and deliver water supply, in accordance with organisational procedures and requirements
- 1.4** Pump and primer are engaged, in accordance with organisational procedures and manufacturers' guidelines
- 1.5** Appropriate agents and equipment are prepared for production of foam at an incident, as required

2 Operate pump

- 2.1** Pump components and ancillary equipment are utilised to draught water, to boost water from a reticulated supply or to deliver and relay water from an appliance tank, in accordance with organisational procedures and requirements of incident
- 2.2** Pump operation is in accordance with organisational procedures, manufacturers' specifications, and Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) guidelines
- 2.3** Pump settings are determined, in accordance with organisational procedures and requirements of the incident
- 2.4** Pumps are operated and observed to ensure that pressure and flow of water meets operational requirements and that safety to personnel is maintained
- 2.5** Pump performance is monitored and maintained to ensure maximum efficiency of operation, to detect and correct pumping and safety problems and to take appropriate action, in accordance with organisational procedures
- 2.6** Pump operations are carried out avoiding injury to

personnel and damage to equipment and facilities

2.7 Mechanical malfunctions are reported, in accordance with organisational procedures

3 Conclude pump operations

3.1 Pump operations are concluded, in accordance with organisational procedures

3.2 Ancillary equipment is collected, reinstated and stowed, in accordance with organisational procedures

3.3 Maintenance procedures and checks are undertaken to ensure pump and ancillary equipment is serviceable, in accordance with organisational requirements

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

type of pump must include

- appliance mounted pump
- portable pump

suitability of water supply must include

- capacity
- pressure

foam agents must include

- Class A foams or
- Class B foams

foam equipment must include

- Class A foams or Class B foams and systems

water supply must include

- reticulated supply
- static supply

principles of hydraulics must include three or more of the following

- discharge and flow rates
- friction loss
- head pressure calculations
- jet reaction
- required branch and nozzle pressures

observed must include three or more of the following

- branch operator activities checking water supply levels

- monitoring of gauges and warning lights
- pump operators working on other units when relay pumping
- use of pressure relief valves and transfer valves
- use of pump performance charts or tables illustrating information such as optimum nozzle pressure and friction loss

Unit Mapping Information

This unit replaces and is equivalent to PUAFIR309B Operate pumps.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

Assessment Requirements for PUAFIR309 Operate pumps

Modification History

Release 1. This is the first release of this unit of competency in the PUA Public Safety Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions on at least one occasion and includes

- accessing static and reticulated water supplies
- applying Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) organisational requirements
- concluding pump operations
- implementing organisational procedures
- maintaining appropriate levels of pressure
- monitoring levels of water in appliance tank to ensure minimum levels for crew protection
- monitoring supply of foam concentrate
- observing personnel and pumping throughout incident
- operating a pump including using gauges and controls, positioning and priming
- preparing pump to deliver water
- providing and maintaining water supply to branch operators
- pumping without injury to personnel or damage to equipment
- responding to changing circumstances
- supplying or delivering correct proportion of foam and water
- supplying water to a location by use of a relay pump
- using ancillary equipment to support pump operations

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions and includes knowledge of

- ancillary equipment used to support delivery of foam and/or water
- determination of water supply capacity and suitability
- discharge and flow rates
- jet reaction
- organisational documentation, policies and procedures
- power train for pump

- principles of hydraulics
- principles of hydraulic flow and pressure, priming and operating pumps, pump components and their operation and pump gauges and/or controls
- pump positioning
- relay pumping including when to use and how it is done
- static and reticulated water supply and their use in pumping operations
- types of primer and their use in pumping operations
- types of foam concentrate, pumps and primers and foam agents and equipment
- Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) organisational requirements including risk mitigation

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in industry approved simulated workplace operational situations that reflect workplace conditions.

Resources for assessment must include access to

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, equipment, tools and personal protective clothing and equipment currently used in industry including
 - a range of pumps
- applicable documentation including organisational procedures, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

PUAFIR323 Take local weather observations

Modification History

Release 1. This is the first release of this unit of competency in the PUA Public Safety Training Package.

Application

This unit of competency involves the skills and knowledge required to take, assess, record and report simple weather observations for a specified area. It includes obtaining weather observations to provide basic interpretations to assist with predictions of future weather conditions and the impact of these conditions on planned field activities or an organisation's ability to respond to a natural disaster.

The unit applies to personnel responsible for taking and recording field weather observations in a specified area.

The fire sector is those sections of government departments, statutory authorities or organisations that have responsibility under jurisdictional arrangements for the delivery of firefighting and fire management services.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Competency Field

Fire

Unit Sector

Fire

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Gather field based

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Weather instruments that can be used for taking weather

weather observations	observations are identified
	1.2 Area specific information is accessed
	1.3 Weather observations are collected from the field using handheld weather instruments
	1.4 Local topographical influences most likely to affect weather conditions are identified
2 Assess local weather signs to identify likely changes	2.1 Weather signs, that may be used to interpret and predict local conditions, are identified
	2.2 Weather signs for monitoring and interpreting current and future conditions are evaluated
	2.3 Trends in weather recordings are identified
	2.4 Short and long term implications of weather signs are assessed
3 Record and report weather observations	3.1 Weather observations are recorded, in accordance with organisational procedures
	3.2 Weather observations are reported to relevant personnel, in accordance with organisational procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to PUAFIR319 Take local weather observations.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

Assessment Requirements for PUA FIR323 Take local weather observations

Modification History

Release 1. This is the first release of this unit of competency in the PUA Public Safety Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria on at least one occasion and includes

- applying Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) organisational requirements
- gathering reliable field based weather observations
- identifying weather trends
- making basic interpretations of current weather effects in localised areas for an emergency management incident
- observing and assessing influence of topography on local weather conditions
- observing and assessing local weather signs to identify likely changes
- observing topographical influences including altitude, slope and vegetation
- recording and reporting weather observations to relevant personnel
- recognising types of topographical influences including altitude, vegetation, slope and aspect
- taking representative weather observations in two different locations, weather observations using hand held weather instruments and basic visual weather observations
- taking weather observations including air temperature, cloud amount and type, relative humidity, wind direction, speed and gusts and time and location at which observations were made
- undertaking observations of weather signs

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria and includes knowledge of

- Bureau of Meteorology information related to weather forecasts
- maritime influence on weather and climate
- meteorological terms
- organisational documentation, policies and procedures
- roles and responsibilities of personnel in the field
- safe work procedures
- types of topographical influences on weather

- types of weather signs types of weather observations including air temperature, atmospheric stability, cloud amount and type, dew point, inversions, precipitation, relative humidity, wind direction - speed and gusts, wind changes - cold fronts, sea and land breezes, and thunderstorms and time and location at which observations were made
- variety of weather instruments including hand held weather meter and sling or whirling psychrometer
- weather trends including anticipated changes, deteriorating conditions, improving conditions and no significant change
- Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) organisational requirements including risk mitigation and safe work procedures

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in industry approved simulated workplace operational situations that reflect workplace conditions.

Resources for assessment must include access to

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, equipment, tools and personal protective clothing and equipment currently used in industry including
 - weather instruments
- applicable documentation including organisational procedures, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

PUAFIR325 Operate heavy plant in fire control operations

Modification History

Release 1. This is the first release of this unit of competency in the PUA Public Safety Training Package.

Application

This unit of competency involves the skills and knowledge required to operate heavy plant in fire control operations.

Heavy plant refers to heavy duty equipment and vehicles, specially designed for executing construction tasks, most frequently ones involving earthwork operations. This may include fire control line construction; clearing vehicle turnarounds, passing bays and safety zones; constructing helipads in forest and/or scrub environments and road construction.

The unit applies to personnel who operate heavy plant machinery, who will be directed to undertake a range of tasks to support fire operations and roadwork construction, it does not include tree pushing.

The fire sector is those sections of government departments, statutory authorities or organisations that have responsibility under jurisdictional arrangements for the delivery of firefighting and fire management services.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Competency Field

Fire

Unit Sector

Fire

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential Performance criteria describe the performance needed to

- outcomes. demonstrate achievement of the element.
- 1 Use and service heavy plant machinery**
 - 1.1** Heavy plant machinery is set up and pre-operational checks are undertaken to ensure safe operation in forest environments that are free of soil, water borne disease and weeds prior to and after use
 - 1.2** Effective communication is established with supervisor, team members and support vehicle operators
 - 1.3** Safe work procedures are employed when using heavy plant machinery for construction
 - 1.4** Heavy plant machinery is parked safely and securely when not in operation
 - 1.5** Personal protective clothing and equipment is worn and used, in accordance with organisational procedures
 - 2 Construct fire control line**
 - 2.1** Obtain briefing and confirm work to be undertaken
 - 2.2** Topographical and vegetation factors are considered when selecting a route for construction of a fire control line
 - 2.3** Environmental, agricultural, cultural and heritage factors are considered when selecting a route for construction of fire control line using heavy plant machinery
 - 2.4** Fire control line is constructed directly on fire edge or away from fire edge, taking into account weather conditions and/or changes in fire behaviour, to meet fire suppression requirements
 - 2.5** Hazards are identified and considered when selecting route and constructing fire control line
 - 2.6** Debris from fire control line construction is appropriately placed to facilitate fire suppression works and to reduce environmental impact
 - 2.7** Fire control line is constructed to suit purposes, including vehicle access, in accordance with organisational procedures
 - 2.8** Helipads, turning areas, passing bays and safety zones are constructed, as directed
 - 3 Mop up and rehabilitate area**
 - 3.1** Mop up work is conducted, in accordance with organisational procedures and in coordination with crew

members

- 3.2** Rehabilitation work is conducted, in accordance with organisational procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

machines must include one or more of the following

- bulldozer
- excavator
- faller buncher
- front end loader
- grader
- harvester
- skidder

Unit Mapping Information

This unit replaces and is equivalent to PUAFIR321 Operate heavy plant in fire control operations.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

Assessment Requirements for PUAFIR325 Operate heavy plant in fire control operations

Modification History

Release 1. This is the first release of this unit of competency in the PUA Public Safety Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions on at least one occasion and includes

- applying Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) requirements
- communicating through the chain of command
- communicating with personnel in support vehicles
- constructing a fire control line in forest or scrub environments
- constructing a fire control line adjacent to and at a distance from live fire edge
- identifying hazards and risks including exposures
- implementing industry and organisational standards when operating heavy plant machinery
- implementing safe work procedures
- mopping up and rehabilitating an area
- operating machines in a fire and non-fire environment
- participating in briefing sessions
- performing pre-start checks of heavy plant machinery
- performing basic maintenance and ensuring servicing of heavy plant machines in a fire or non-fire environment
- recognising and considering topographical, vegetation, agricultural, environmental, cultural and heritage factors
- selecting routes for fire control line construction
- working with different types of mop up activities

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions and includes knowledge of

- assessment of hazards and risks including characteristics of trees, topographical factors, vegetation, environmental factors, cultural and heritage factors and agricultural factors
- capabilities of support vehicles

- hazards and risks including exposures
- heavy plant machine capabilities, limitations, design and safety features
- industry and organisational standards for control line, helipad and roadwork construction and rehabilitation activities
- machine maintenance requirements in a fire ground environment
- organisational documentation, policies and procedures
- pre-start and post work check procedures
- safe work procedures including
 - assistance to vehicles and personnel working with machines
 - communication with fire control line supervisors and support vehicles
 - contact and communication with support vehicles
 - Falling Object Protection (FOPs) and Roll Over Protection (ROPs) are correctly fitted and used
 - fire ground emergencies
 - limits of machine capability
 - personal protective clothing and equipment
 - position in relation to live fire edge and fire intensity
 - safe work practices
 - seatbelts being worn in the cabin
 - survival techniques in burn over situations
- topographical, vegetation, environmental, cultural, heritage and agricultural factors
- types of mop up activities
- Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) organisational requirements including risk mitigation

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in industry approved simulated workplace operational situations that reflect workplace conditions.

Competency should be assessed in an organisation or agency approved operational environment or in a field based simulated environment.

Constructing a fire line should be assessed in a forest and/or scrub environment.

Resources for assessment must include access to

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, equipment, tools and personal protective clothing and equipment currently used in industry including
 - machinery and communications equipment
- applicable documentation including organisational procedures, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

PUAFIR326 Push trees with machines in forest fire control operations

Modification History

Release 1. This is the first release of this unit of competency in the PUA Public Safety Training Package.

Application

This unit of competency involves the skills and knowledge required to apply machine operation skills to the specific circumstances of fire operations. It includes fire control line construction, pushing trees, clearing vehicle turnarounds and passing bays, constructing helipads at a wildfire on forested land and completing rehabilitation activities. Work at this level will be carried out under direction with limited supervision.

The unit applies to personnel who will be directed to push trees using machinery to support fire operations.

The fire sector is those sections of government departments, statutory authorities or organisations that have responsibility under jurisdictional arrangements for the delivery of firefighting and fire management services.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Competency Field

Fire

Unit Sector

Fire

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1 Use and service machine**
 - 1.1** Machinery is set up and preparation checks are undertaken to ensure safe operation in forest environments that are free of soil and water borne disease and weeds prior to and after use
 - 1.2** Effective communication is established with supervisor, team members and support vehicles
 - 1.3** Safe work procedures are employed when using machinery to push tree
 - 1.4** Machinery is parked safely and securely when not in operation
 - 1.5** Personal protective clothing and equipment is worn and used, in accordance with organisational procedures
- 2 Plan to push tree**
 - 2.1** Obtain briefing and confirm work to be undertaken
 - 2.2** Hazardous tree marking system is interpreted and actioned for each tree
 - 2.3** Tree is assessed for suitability for pushing with machinery
 - 2.4** Topographical factors and vegetation are considered when planning to push tree using machinery
 - 2.4** Environmental, cultural and heritage factors are considered in relation to area where trees will be pushed
 - 2.5** Approval is sought and gained for tree to be pushed with machinery
 - 2.6** Hazards and safe clearances are established around trees selected for pushing with machinery
 - 2.7** Escape routes are identified, in accordance with organisational procedures
 - 2.8** Support personnel are warned of tree to be pushed with machinery
- 3 Push tree**
 - 3.1** Communication is maintained with ground crew during tree pushing operations
 - 3.2** Ground is prepared for tree pushing with machinery
 - 3.3** Direction of tree fall is determined

- 3.4 Tree is pushed with machinery applying safe tree pushing practices
- 3.5 Apply fireground emergency procedures
- 4 Undertake mop up and rehabilitation activities
 - 4.1 Trees and debris are cleared for safe access to safety zone escape routes and to allow for mop up work
 - 4.2 Area, where trees have been pushed by machinery, is made safe for organisational personnel to enter
 - 4.3 Rehabilitation activities are conducted, in accordance with organisational procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

machine must include one or more of the following

- bulldozer
- excavator
- faller buncher
- front end loader
- harvester

and must be fitted with

- Falling Object Protection Systems (FOPS)
- Roll Over Protection Systems (ROPS)

Unit Mapping Information

This unit replaces and is equivalent to PUAFIR322 Push trees with machines in forest fire control operations.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

Assessment Requirements for PUAFIR326 Push trees with machines in forest fire control operations

Modification History

Release 1. This is the first release of this unit of competency in the PUA Public Safety Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions on at least one occasion and includes

- applying Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) organisational requirements
- assessing and planning to push trees using machinery
- considering topography, vegetation, environmental, cultural and heritage factors
- communicating within the chain of command
- implementing safe work procedures including
 - communicating with fire control line supervisors and support vehicles
 - ensuring FOPS and ROPS are correctly fitted and used
 - maintenance of contact and communication with support vehicles
 - positioning in relation to live fire edge and fire intensity
 - providing assistance to vehicles and personnel working with machines
 - survival techniques in burn over situations
 - wearing personal protective clothing and equipment
 - wearing seatbelts in cabin
 - working within limits of machine capability
- identifying hazards and risks including exposures
- maintaining communication with support personnel and vehicles
- operating machines in a fire and non-fire environment
- participating in briefing sessions
- performing basic maintenance and ensuring servicing of machinery in fire and non-fire environments
- performing pre-start checks
- preparing ground for tree pushing
- pushing trees in support of fire operations safely
- seeking and gaining permission to complete actions
- undertaking mop up and rehabilitation activities
- using safe tree pushing practices including not rocking trees, avoiding obstacles such as tree roots, stumps and rocks, determining direction of approach relative to proposed direction of

fall, recognising minimum and gradual power application to effect tree fall, being aware of point of contact with machine and using blade and/or tree arm for optimal leverage

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions and includes knowledge of

- assessment of hazards and risks including characteristics of trees, cultural and heritage factors, environmental factors, hazards and risks including exposures, topographical factors and vegetation, burn over survival techniques and capabilities of support vehicles
- ground preparation including clearing escape route, clearing vegetation and obstacles such as logs and rocks around trees, creating ramp for pushing and ripping or severing roots of tree to be pushed
- hazards and risks including exposures
- machine capabilities, limitations, design and safety features
- machine maintenance requirements in a fire ground environment
- organisational documentation, policies and procedures including operating machines
- personal protective clothing and equipment
- rehabilitation works
- re-start and post work check procedures
- safe work procedures including
 - assistance to vehicles and personnel working with machines
 - communication with fire control line supervisors and support vehicles
 - ensuring FOPS and ROPS are correctly fitted and used
 - fire ground emergencies
 - maintenance of contact and communication with support vehicles
 - position in relation to live fire edge and fire intensity
 - survival techniques in burn over situations
 - wearing personal protective clothing and equipment
 - wearing seatbelts in cabin
 - working within limits of machine capability
- safe tree pushing practices including
 - avoiding obstacles such as tree roots, stumps and rocks
 - awareness of point of contact with machine
 - considering characteristics of hazardous tree
 - considering rehabilitation activities
 - direction of approach relative to proposed direction of fall
 - minimum and gradual power application to effect tree fall
 - not rocking tree
 - use of blade and/or tree arm for optimal leverage

- wildfire control tactics and techniques
- Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) organisational requirements including risk mitigation

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in industry approved simulated workplace operational situations that reflect workplace conditions.

Competency should be assessed in an organisational/agency approved operational environment or in a field based simulated wildfire environment; pushing trees by machinery should be assessed in a forest environment.

Resources for assessment must include access to

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, equipment, tools and personal protective clothing and equipment currently used in industry including
 - trees requiring pushing, machinery and communications equipment
- applicable documentation including organisational procedures, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

PUAFIR402 Conduct simple prescribed burns

Modification History

Release 1. This is the first release of this unit of competency in the PUA Public Safety Training Package.

Application

This unit of competency involves the skills and knowledge required to prepare, conduct and evaluate simple prescribed burns in accordance with approved burn plans.

A prescribed burn is the controlled application of fire under specified environmental conditions to a predetermined area and at the time, intensity and rate of spread required to attain planned resource management objectives. A simple prescribed burn is characterised by low risk, low intensity, small area, low potential impact on assets, completion in one shift and minimal variation of fuel and terrain.

A prescribed burn plan is an approved plan for the conduct of prescribed burning, it includes a map identifying the area to be burned and incorporates the specifications and conditions under which the operation is to be conducted.

The unit is applicable to personnel responsible for preparing, conducting and evaluating a simple prescribed burn on public and private land.

The fire sector is those sections of government departments, statutory authorities or organisations that have responsibility under jurisdictional arrangements for the delivery of firefighting and fire management services.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

It is essential that the prerequisite units listed below are obtained prior to the issuance of this unit to individuals within the fire sector or the units contributing to the attainment of a fire qualification.

PUAFIR303 Suppress wildfire

Competency Field

Fire

Unit Sector

Fire

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1 Prepare to burn

- 1.1 Burn operations for a simple prescribed burn are identified and undertaken, in accordance with approved prescribed burn plan, burn plan objectives, organisational procedures and legislative and regulatory requirements
- 1.2 Permits are obtained, in accordance with organisational procedures and legislative and regulatory requirements
- 1.3 Burn notifications and plans are issued to persons or organisations, in accordance with prescribed burn plan, organisational procedures and legislative requirements
- 1.4 Control lines, including secondary control lines, are specified and prepared, in accordance with organisational procedures
- 1.5 Prescribed burn plan operational hazards and risks to safety of people, property, assets, ecology and environment are identified and risk mitigation works are completed
- 1.6 Forecast weather conditions are monitored, recorded and assessed, in accordance with organisational procedures
- 1.7 Fuel conditions are monitored, in accordance with organisational procedures and prescribed burn plan
- 1.8 Resource requirements are confirmed with reference to burn plan

2 Conduct burn

- 2.1 Prescribed burn notifications are issued, in accordance with organisational procedures
- 2.2 Pre-burn checks are conducted, in accordance with organisational procedures
- 2.3 Local weather conditions for day of burn are monitored and contingency arrangements actioned and communicated accordingly
- 2.4 Resources are gathered and personnel are briefed, in accordance with prescribed burn plan and contingency

arrangements

- 2.5 Burn ignition strategies, including lighting techniques patterns and sequences are implemented, in accordance with organisational procedures and prescribed burn plan
 - 2.6 Burning is monitored, patrol activities are conducted and operational changes made, as required
 - 2.7 Contingencies are implemented, in accordance with prescribed burn plan, as required
 - 2.8 Burn documentation is kept, in accordance with organisational procedures
 - 2.9 Burn operations are concluded and burn security is implemented, in accordance with organisational procedures
 - 2.10 Crews are debriefed and resources released from the burn
 - 2.11 Incidents are reported and investigated, in accordance with organisational procedures
- 3 Conduct post burn activities**
- 3.1 Outcomes of the burn are assessed against burn objectives, in accordance with organisational procedures
 - 3.2 Variations from the burn plan are reported, in accordance with organisational procedures
 - 3.3 Restoration and rehabilitation works are identified and carried out, in accordance with organisational procedures
 - 3.4 Prescribed burn records are submitted, in accordance with the organisational procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

prescribed burn plan must include

- approval of plan for the conduct of prescribed burning
- map identifying area to be burned
- specifications and conditions under which operation is to be conducted

burn objectives must include one or more of the following

- asset protection
- biodiversity protection
- community protection
- habitat management
- hazard reduction
- management of cultural sites and activities
- protection of fire sensitive ecological communities
- vegetation management

personnel or organisation must include one or more of the following

- personnel or organisations who
 - have an interest in adjacent land to which a burn could spread
 - have an interest in managing the consequences of a burn
 - have an interest in specific assets
 - have an interest in the area to be burned
 - may be concerned by evidence of a burn

resources must include one or more of the following

- contingency resources
- crews for control, suppression and ground ignition
- equipment and supplies
- logistical support
- other vehicles
- tankers

burn ignition strategies and tactics must include

- contingency arrangements
- fire behaviour to be achieved
- ignition methods, lighting patterns, sequencing and timing of ignition

lighting techniques must include one or more of the following

- hand held
- vehicle mounted propelled incendiaries
- wind and waterproof matches

lighting techniques and patterns must include

- contour lighting
- echelon
- grid
- line

- lighting sequence must include one or more of the following
- multi-line
 - spot
 - lighting sequences that considers
 - fuel arrangement
 - fuel moisture
 - slope
 - time of day
 - wind direction
- monitoring burn must include one or more of the following
- fire shape and spread
 - flame height
 - fuel moisture content
 - predictions
 - rate of spread
 - recording
 - safety considerations
 - smoke development
 - weather observation
 - wind speed and direction
- concluding operations and burn security must include one or more of the following
- mitigating hazards for public safety
 - mopping up and black out
 - patrolling burn area
 - reopening roads
 - transfer of responsibility, as per organisational procedures
- outcomes of the burn must include one or more of the following
- achievement of burn objectives
 - escapes
 - external impacts
 - levels of scorch
 - percentage of area burnt
 - reporting and storage of burn documentation

Unit Mapping Information

This unit replaces and is equivalent to PUAFIR412 Conduct simple prescribed burns.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

Assessment Requirements for PUAFIR402 Conduct simple prescribed burns

Modification History

Release 1. This is the first release of this unit of competency in the PUA Public Safety Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions on at least one occasion and includes

- applying Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) requirements including hazards, risk mitigation and safety of personnel
- checking burn and crew activities
- completing burn notifications
- concluding burn operations and implementing burn security
- conducting operational briefings and debriefings, safe burns utilising resources and post burn activities including operations and security
- confirming resources, location, construction and suitability of control lines for prescribed burns
- identifying and implementing restoration and rehabilitation activities
- implementing contingency arrangements
- interpreting and implementing simple prescribed burn plans
- interpreting simple prescribed burn plans and objectives, fire behaviour conditions and existing and forecast weather conditions
- monitoring equipment
- planning for contingencies
- preparing for a simple prescribed burn
- recording actions taken
- using fire prediction tools and resources

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions and includes knowledge of

- briefing and debriefing content and processes
- burn notification including verbal and written notification
- characteristics of a simple prescribed burn including completed in one shift, involves

minimal variation of fuels and terrain, low intensity, low potential impact on assets, low risk and small area

- conclusion of simple prescribed burns including operations and security
- contingency arrangements including command structure, safety considerations such as escape routes and safety zones, actions to take in the event of unexpected fire behaviour changes, resolution of escapes, special resources and secondary control lines, resource requirements, resolution of resource breakdowns, injury on fire line and burn targets not met
- contingency plans
- fire prediction tools
- ground ignition patterns and techniques
- impact of conditions at simple prescribed burns on potential fire behaviour
- legislation, industry standards, codes of practice and regulations
- legislative and organisational authorisations required
- organisational documentation, policies and procedures
- outcomes of simple prescribed burn
- personnel and organisations involved in simple prescribed burn activities
- required permits
- resource requirements
- restoration and rehabilitation
- seasonal restrictions on simple prescribed burns
- simple prescribed burn and securing burn monitoring
- techniques, patterns and sequencing for lighting
- types of property and assets
- types of simple prescribed burns, prescribed burn plans and objectives
- weather conditions including: temperature, relative humidity, weather changes, atmospheric stability, drought index, fire danger index, weather forecasts, actual or anticipated changes in conditions and progress targets not met
- Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) organisational requirements including risk mitigation and safe work practices

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in industry approved simulated workplace operational situations that reflect workplace conditions.

Competency should be demonstrated in a range of actual and/or field based workplace environments with evidence collected from undertaking a simple prescribed burn being required.

Resources for assessment must include access to

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, equipment, tools and personal protective clothing and equipment currently used in industry including
 - fire management and contingency plans
 - lighting and suppression crews
 - lighting and suppression equipment
 - simple prescribed burn plans
- applicable documentation including organisational procedures, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

PUAFIR406 Develop simple prescribed burn plans

Modification History

Release 1. This is the first release of this unit of competency in the PUA Public Safety Training Package.

Application

This unit of competency involves the skills and knowledge required to develop simple prescribed burn plans for specified burn areas and to prepare the plans to achieve identified objectives.

A prescribed burn is the controlled application of fire under specified environmental conditions to a predetermined area and at the time, intensity and rate of spread required to attain planned resource management objectives. A simple prescribed burn is characterised by low risk, low intensity, small area, low potential impact on assets, completion in one shift and minimal variation of fuel and terrain.

A prescribed burn plan is an approved plan for the conduct of prescribed burning, it includes a map identifying the area to be burned and incorporates the specifications and conditions under which the operation is to be conducted.

The unit is applicable to personnel responsible for the development of simple prescribed burn plans.

The fire sector is those sections of government departments, statutory authorities or organisations that have responsibility under jurisdictional arrangements for the delivery of firefighting and fire management services.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

It is essential that the prerequisite units listed below are obtained prior to the issuance of this unit to individuals within the fire sector or the units contributing to the attainment of a fire qualification.

PUAFIR303 Suppress wildfire

Competency Field

Fire

Unit Sector

Fire

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1 Identify burn areas and burn objectives

1.1 Areas requiring simple prescribed burning are identified, in accordance with organisational procedures

1.2 Burn objectives are identified, in accordance with organisational procedures

1.3 Target groups are identified and consultation process is undertaken, in accordance with organisational procedures

1.4 Legislative and regulatory requirements are identified and complied with throughout planning process

2 Prepare prescribed burn plan for simple burn

2.1 Key features of the burn area are identified including variations in terrain, fuel types and quantities control lines and weather

2.2 Risks from proposed burn, both on and off site, are assessed and considered in planning process including operational hazards, safety of people, protection of property, assets, environment and ecological risks

2.3 Results of consultation are factored into the planning process, in accordance with organisational procedures

2.4 Fire behaviour to meet burn objectives and to account for variations in fuel, terrain and weather is determined

2.5 Burn ignition strategies and tactics required for fire behaviour, intensity and that are suitable for location are determined, in accordance with organisational procedures

2.6 Lighting techniques and lighting patterns are identified

2.7 Hazard and risk mitigation are determined and asset protection works are identified

2.8 Strategies for mitigating hazards and risks are identified and required preparatory works are identified

2.9 Strategies and tactics for controlling prescribed burn are identified

- 2.10 Type and quantity of resources required are identified
 - 2.11 Prescriptions for implementation of burn plan strategies and tactics are documented, in accordance with organisational procedures
 - 2.12 Contingencies are outlined in the prescribed burn plan
 - 2.13 Prescribed burn plan is prepared, in accordance with organisational procedures
- 3 Gain approval of prescribed burn plan**
- 3.1 Prescribed burn plan is submitted for approval, in accordance with organisational procedures and legislative requirements
 - 3.2 Modifications and amendments to prescribed burn plan are made based on feedback received
 - 3.3 Prescribed burn plan approval is gained

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

simple prescribed burn plan must include

- an approved plan for conduct of simple prescribed burn
- map identifying area to be burned
- specifications and conditions under which operation is to be conducted

simple prescribed burn objectives must include one or more of the following

- asset protection
- biodiversity protection
- community protection
- habitat management
- hazard reduction
- management of cultural sites and activities
- management of cultural sites and activities
- protection of fire sensitive ecological communities

target consultation groups must include one or more of the following

- vegetation management
- adjacent land owners or managers
- commercial operations within impact zone
- community groups with specific interests
- government organisations including local, state and federal
- groups or individuals that may be adversely affected
- other groups and people within prescribing organisation

lighting techniques must include

- hand held
- wind and/or waterproof matches

lighting patterns include one or more of the following

- contour lighting
- echelon
- grid
- line
- multi-line
- spot

operational hazards must include two or more of the following

- adverse terrain or weather conditions
- crew size
- falling trees and limbs
- hazardous material
- high fuel loads
- ignition methods
- plant
- powerlines
- road traffic
- vegetation type

safety of people must include two or more of the following

- impact of smoke on vulnerable communities near burn area
- safety of any people permanently or temporarily in burn area
- safety of people involved with burn implementation
- safety of people on areas adjacent to burn area

property and assets must include two or more of the following that are near the burn area

- camps or recreational areas
- commercial land use such as crops or industry
- cultural sites or historical buildings
- other property and assets
- plantations

environmental and ecological risks must include

- research plots and reference areas
- stock
- urban areas
- utilities - power and telephone lines, water supply structures and communications towers
- impact on
 - native flora and fauna including rare and endangered species
 - smoke
 - soil
 - use of chemical fire suppressants
 - water quality or supply
- crews for ground ignition and suppression
- equipment backup
- ignition and suppression equipment and supplies
- logistical support
- other vehicles
- tankers

resources must include one or more of the following

Unit Mapping Information

This unit replaces and is equivalent to PUAFIR413 Develop simple prescribed burn plans.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

Assessment Requirements for PUAFIR406 Develop simple prescribed burn plans

Modification History

Release 1. This is the first release of this unit of competency in the PUA Public Safety Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions on at least one occasion and includes

- applying legislative, regulatory, organisational and permit requirements
- applying Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) organisational requirements including risk mitigation and safe work practices
- assessing fuel types and quantities in burn area
- determining actions to minimise impacts of simple prescribed burn
- developing contingency arrangements
- developing pre-burn work schedule
- gaining simple prescribed burn approval
- identifying and working with resources
- identifying burn areas including developing timelines for planning and conduct of simple prescribed burn, simple prescribed burn objectives, strategies and tactics to meet simple prescribed burn objectives, ignition strategies and lighting techniques and patterns for ignition
- identifying resources
- identifying, assessing and mitigating operational hazards and risks
- identifying, assessing and mitigating risks to people, property and assets, ecological and environmental risks
- implementing legislation and regulations
- interpreting map of area and identifying key features
- predicting anticipated fire behaviour and intensity in burn area
- preparing plans and map for simple prescribed burning
- targeting consultation groups are identified, liaised with and consulted

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions and includes knowledge of

- accumulated fuels
- characteristics of simple prescribed burns including completed in one shift, involves minimal variation of fuels and terrain, low intensity, low potential impact on assets, low risk and small area
- contingencies
- effects of fire on vegetation, fauna, people, property, assets, ecology and the environment
- fire behaviour for fuel type being prescribed
- fire prediction tools
- ignition strategies and tactics
- legislative, regulatory, organisational and permit requirements for simple prescribed fires
 - notification requirements
 - organisational documentation, policies and procedures
 - planned burn hazards and risks
 - resource requirements and capabilities
- simple prescribed burn plans
- simple prescribed burning ignition and suppression strategies
- smoke management
- target groups and community
- traffic management plan requirements
- Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) organisational requirements including risk mitigation and safe work practices

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in industry approved simulated workplace operational situations that reflect workplace conditions.

Competency should be demonstrated in a range of actual and/or field based workplace environments.

Resources for assessment must include access to

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, equipment, tools and personal protective clothing and equipment currently used in industry including
 - area requiring application of fire under prescribed conditions

- existing management plans and data relevant to area being prescribed
- applicable documentation including organisational procedures, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

PUAFIR407 Interpret and analyse fire weather information

Modification History

Release 1. This is the first release of this unit of competency in the PUA Public Safety Training Package.

Application

This unit of competency involves the skills and knowledge required to assess and interpret weather information in relation to its impact on fire behaviour. It includes collecting, interpreting, analysing and recording weather information.

The unit applies to personnel who are required to provide weather predictions as part of the planning undertaken for a fire.

The fire sector is those sections of government departments, statutory authorities or organisations that have responsibility under jurisdictional arrangements for the delivery of firefighting and fire management services.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Competency Field

Fire

Unit Sector

Fire

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Collect weather information

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Sources of weather information are identified and accessed

- 1.2 Fire site information is sought from databases or experts
 - 1.3 General data is obtained
 - 1.4 Field observations are obtained and monitored
- 2 Interpret weather information**
 - 2.1 Weather data is interpreted for current weather conditions in an area
 - 2.2 Bureau of Meteorology weather forecasts and warnings are interpreted for future weather conditions in an area
 - 2.3 Field weather observations are assessed
 - 2.4 Local weather influences likely to affect fire weather conditions are identified
 - 2.5 Weather forecasts are validated against field weather observations, as they become available
 - 2.6 Weather forecasts are evaluated for their effect on fire behaviour
- 3 Analyse, record and communicate fire weather information**
 - 3.1 Analysis is conducted using weather data and forecast weather signs, local weather influences and likely impact on fire behaviour
 - 3.2 Quality information is provided within required timeframes for fire control planning
 - 3.3 Weather conditions are monitored and potential changes to fire predictions are assessed and reported
 - 3.4 Analysis and advice are provided to relevant personnel

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to PUAFIR414 Interpret and analyse fire weather information.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

Assessment Requirements for PUAFIR407 Interpret and analyse fire weather information

Modification History

Release 1. This is the first release of this unit of competency in the PUA Public Safety Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria on at least one occasion and includes

- analysing, recording and communicating fire weather information and source data
- applying Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) organisational requirements
- collecting weather information by accessing recorded data, maps and web based products
- composing field observations
- interpreting topographic maps to assess effects on weather
- interpreting weather maps
- managing data and maintaining accurate records
- providing organisational personnel accurate analysis and projection of weather affecting an area and likely impact on fire behaviour

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria and includes knowledge of

- effect of topography on weather and fire behaviour
- field observations including cloud type and cover, dew point, fire behaviour including rate of spread, flame height and spotting, fuel moisture content, temperature and relative humidity, wind speed, direction and gust and location and time of observation
- fire behaviour factors
- impact of weather on fire behaviour including size, growth and shape
- influences on weather
- observation, analysis and interpretation of weather signs
- organisational documentation, policies and procedures
- sources of data relating to weather and fire behaviour
- sources of weather information
- types of weather influence most likely to affect fire weather conditions including altitude and elevation, bodies of water, distance from coast, dry air subsidence inversion, Foehn winds, katabatic and anabatic winds, sea and land breezes, slope and aspect and wind channelling

- weather analysis including atmospheric stability, Bureau of Meteorology products and tools, Haines index, smoke dispersion, temperature inversions, wind changes
- weather data including air temperature, dewpoint, relative humidity, synoptic charts, wind direction, speed and gusts, drought factor and drought index
- weather forecasts
- Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) organisational requirements including risk mitigation

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in industry approved simulated workplace operational situations that reflect workplace conditions.

Resources for assessment must include access to

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, equipment, tools and personal protective clothing and equipment currently used in industry including
 - a range of sources for information related to weather conditions and fire behaviour and organisational templates for weather recording
- applicable documentation including organisational procedures, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

PUAFIR417 Supervise machinery use in wildfire operations

Modification History

Release 1. This is the first release of this unit of competency in the PUA Public Safety Training Package.

Application

This unit of competency involves the skills and knowledge required to task and supervise the use of machinery to undertake a range of activities to support fire ground operations. It includes control line construction and rehabilitation, reduction and removal of hazards, improvement of existing tracks and roads, creating access and egress to control lines, constructing helipads and assisting in blacking out.

The unit applies to personnel who supervise machine operators and who provide an essential interface between machine operators and the command structures at fire incidents.

The fire sector is those sections of government departments, statutory authorities or organisations that have responsibility under jurisdictional arrangements for the delivery of firefighting and fire management services.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

It is essential that the prerequisite units listed below are obtained prior to the issuance of this unit to individuals within the fire sector or the units contributing to the attainment of a fire qualification.

PUAFIR303 Suppress wildfire

Competency Field

Fire

Unit Sector

Fire

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential Performance criteria describe the performance needed to

outcomes.

demonstrate achievement of the element.

1 Assess work area

- 1.1** Risk assessment of fire site is undertaken and hazards and assets at risk are identified and inspected
- 1.2** Trees to be pushed are identified, marked for attention, options to avoid pushing trees are examined and permission to remove trees is obtained
- 1.3** Terrain through which tasks must be undertaken to achieve incident objectives is assessed
- 1.4** Route is selected, assessed and marked for construction of control line and removal or avoidance of hazards and to determine the most appropriate path and type of machinery suitable for wildfire operations activity
- 1.5** Consultation and communication with land owners and managers is undertaken prior to machinery entering the property

2 Brief and task machine operators

- 2.1** Personnel are briefed on strategies and tactics to be implemented by machine operators, in accordance with organisational procedures and the incident action plan
- 2.2** Machine operators are tasked and briefed on work standards and safe work practices to be adhered to
- 2.3** Reporting arrangements between machine operators, fire crew and supervisor are outlined
- 2.4** Machine operators are checked to confirm that they are wearing appropriate personal protective clothing and equipment
- 2.5** Appropriate communications equipment is provided and instructions for use is given to machine operators
- 2.6** Machinery is inspected to ensure compliance with safety requirements
- 2.7** Machinery is selected to ensure compliance with work and/or contract requirements
- 2.8** Machinery is checked for compliance with hygiene guidelines in respect to spread of disease and weeds and remedial action is taken, as required
- 2.9** Anchor points, escape routes and safety zones are established and communicated to personnel in the area

- 3 Supervise use of machinery**
 - 3.1 Machinery safety requirements are monitored throughout wildfire operations
 - 3.2 Near misses or accidents are reported, in accordance with organisational procedures
 - 3.3 Communications with machine operators, support crew and the chain of command are maintained, in accordance with organisational procedures and the communication plan
 - 3.4 Location and standard of construction of control line is adapted to changes in fire behaviour and intensity
 - 3.5 Fire spread and location of the control line is monitored, taking into account changes in fuel, weather and topography
 - 3.6 Progress of delegated tasks is monitored and regular reports are provided to appropriate supervisor
 - 3.7 Performance of delegated tasks by machine operators is monitored, in accordance with organisational procedures and code of practice
 - 3.8 Fuel and maintenance requirements are monitored and requests are organised through the chain of command
 - 3.9 Minimisation of machine operations damage to agricultural, environmental, forestry, cultural and other community assets is ensured
 - 3.10 Records of machine and operator work hours are maintained and provided to relevant personnel, in accordance with organisational procedures
- 4 Conduct mop up and support activities**
 - 4.1 Machine operators are tasked and mop up and support activities are carried out, in accordance with organisational procedures
 - 4.2 Threats to security of the perimeter or a sector of the fire are identified and reported on through the chain of command
 - 4.3 Rehabilitation of fire control lines no longer required is undertaken
- 5 Recover and maintain equipment**
 - 5.1 Requests for repairs or maintenance of machinery are communicated through the chain of command

- 5.2 Damaged or missing equipment is recorded and/or reported, in accordance with organisational procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

risk assessment of the site must include

- fire behaviour
- fuel type
- terrain
- weather conditions

Unit Mapping Information

This unit replaces and is equivalent to PUAFIR415 Supervise machinery use in wildfire operations.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

Assessment Requirements for PUAFIR417 Supervise machinery use in wildfire operations

Modification History

Release 1. This is the first release of this unit of competency in the PUA Public Safety Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions on at least one occasion and includes

- applying and monitoring safe work practices during fire suppression activities including control line construction and pushing trees
- applying Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) organisational requirements
- assessing work area including hazards and risks
- briefing and tasking machine operators
- communicating with machine operators
- conducting mop up and support activities
- constructing anchor points and safety zones including burnt areas, clearings, rivers, site of a recent wildfire or prescribed burn, static water bodies and area of safety zone suitable for fire size
- cooperating with support vehicle personnel
- ensuring hazardous trees have been marked for attention
- establishing and maintaining work standards of machine operators
- implementing strategies
- maintaining communication
- maintaining health and safety of people in wildfire area
- monitoring and reporting on machinery operations in fire suppression activities
- recovering and maintaining equipment
- reviewing options
- selecting and marking routes for fire control line construction
- supervising personnel and the use of machinery
- wearing personal protective clothing and equipment

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions and includes

knowledge of

- asset categories
- Australasian Inter-service Incident Management System (AIIMS)
- communications equipment
- fire control line construction including anchor points and safety zones, asset protection, capabilities of support vehicles, fire control line construction rates and construction standards, using machines to construct control lines, construction guidelines and tandem operations
- isolation of hazards
- mop up and support activities
- options available with control lines
- organisational documentation, policies and procedures
- personal protective clothing and equipment
- potential hazards
- processes for planning for the availability of machines and operators
- protection of environmental, structural, infrastructure, cultural and agricultural assets
- records for time keeping and reporting requirements
- role and responsibilities of machine supervisor
- role of machines in mopping up
- safety including communication, machine requirements, mutual support, operator safety, operating procedures, safe work practices including those for working around trees, survival techniques when threatened by wildfire and personnel welfare
- strategies and tactics for firefighting
- tree marking including hazardous tree and track marking system
- types of control line construction
- types of hazards including burns, disorientation, environmental, fatigue, heat related illness, falling objects, branches and trees, lack of visibility, machines, manual handling, overhead hazards, beehives, powerlines, trees weakened by fire, rot or cracks, rolling objects, smoke inhalation, snake or insect bites, sprains or fractures, terrain and soil types, trips and falls and water bombing operations
- types of machinery, their capabilities and limitations including bobcat - skid steer loader, brompton rat, bulldozer, excavator, front end loader, grader, scrub rollers, tractor with blade or plough and wheeled dozer and log skidder with blade
- use of machines in wildfire operations including
 - arrangements regarding organisational, private and contracted equipment
 - capabilities of supporting fire units
 - general servicing and maintenance requirements of machines
 - machine design and safety features
 - machine set up and capabilities
 - organisational requirements for engagement of machines
 - transport of machines
- Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) legislated requirements including risk mitigation and safe work procedures

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in industry approved simulated workplace operational situations that reflect workplace conditions.

Competency should be demonstrated and assessed over time in a range of field based environments.

Resources for assessment must include access to

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, equipment, tools and personal protective clothing and equipment currently used in industry including
 - wildfire or prescribed burn and machinery
- applicable documentation including organisational procedures, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

PUAFIR501 Conduct fire investigation and analysis activities

Modification History

Release 1. This is the first release of this unit of competency in the PUA Public Safety Training Package.

Application

This unit of competency involves the skills and knowledge required to respond to an incident and to undertake a preliminary fire investigation prior to the arrival of a specialist fire investigator.

The unit is applicable to personnel required to conduct a fire investigation at a fire or related incident. It is not intended for personnel operating in the role of specialist fire investigator.

The fire sector is those sections of government departments, statutory authorities or organisations that have responsibility under jurisdictional arrangements for the delivery of firefighting and fire management services.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

It is essential that the prerequisite units listed below are obtained prior to the issuance of this unit to individuals within the fire sector or the units contributing to the attainment of a fire qualification.

PUALAW001 Protect and preserve incident scene

Competency Field

Fire

Unit Sector

Fire

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1 Plan fire or incident investigation and analysis activities**
 - 1.1 Roles and responsibilities of organisations or agencies and support personnel involved in the fire or incident investigation are confirmed
 - 1.2 Procedures and protocols for the coordination of organisations involved in the fire or incident investigation are identified, agreed and implemented
 - 1.3 Strategies required to conduct fire or incident investigation and analysis are identified and implemented, in accordance with organisational procedures
 - 1.4 Preliminary and background sources of information concerning the context of the fire or incident investigation are identified and used
 - 1.5 Legislative requirements that impact on the collection and recording of evidence are identified
 - 1.6 Evidence and information gathering process at the incident site is planned, in accordance with organisational procedures, environmental conditions and resource availability
 - 1.7 Fire investigation equipment and resources for the incident are identified and assembled
- 2 Collect, collate and preserve evidence**
 - 2.1 Methods and techniques of evidence and information collection for the investigation are applied, in accordance with organisational procedures
 - 2.2 Various types of evidence and information pertinent to the investigation are recorded or collected, in accordance with organisational procedures
 - 2.3 Organisational procedures for continuity and preservation of evidence are followed
 - 2.4 Packaging and identification techniques for transportation of evidence for laboratory testing are followed, in accordance with organisational procedures
- 3 Determine origin and cause of fire at incident**
 - 3.1 Fire investigation procedures to determine the origin and cause of fire are followed
 - 3.2 Liaise with specialist fire investigation personnel to support determination of the cause of fire, in accordance with organisational procedures

- 3.3** Provide assistance to forensic personnel and specialist organisations, in accordance with organisational procedures
 - 3.4** Evidence of origin and cause of fire is identified and examined
 - 3.5** Preliminary findings are documented and validated, in accordance with organisational procedures
 - 3.6** Fire origin and cause determination theories are developed and assessed, using organisationally approved scientific methods
 - 3.7** Findings, methodologies, support data and briefing notes are documented, in accordance with organisational procedures
 - 3.8** Fire origin and cause is determined and reported, in accordance with organisational procedures
- 4 Conduct analysis of incident**
 - 4.1** Information relating to incident is gathered, in accordance with organisational procedures
 - 4.2** Information relating to incident is evaluated, in accordance with organisational procedures
- 5 Record and report information collected**
 - 5.1** Information for a fire incident investigation is recorded, in accordance with organisational procedures and the rules of evidence
 - 5.2** Information collected for a fire incident investigation is prepared and documented, in accordance with organisational procedures
 - 5.3** Report is submitted through the chain of command, in accordance with organisational procedures
- 6 Prepare for proceedings**
 - 6.1** Briefings are participated in with counsel, as required
 - 6.2** Additional information or clarification of fire incident investigation procedures or findings are investigated, if required
 - 6.3** Protocols for giving evidence at coronial, civil or criminal proceedings are implemented
- 7 Review and evaluate fire or incident investigation**
 - 7.1** Outcomes of legal proceedings are identified and distributed to ensure knowledge of investigations and

trends is maintained and is current

7.2 Changes to organisational policies and procedures arising from legal proceedings and decisions are formulated and reported

7.3 Fire or incident cause determination, documentation or recommendations are forwarded to relevant personnel, in accordance with organisational procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to PUAFIR501B Conduct fire investigation and analysis activities.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

Assessment Requirements for PUA FIR501 Conduct fire investigation and analysis activities

Modification History

Release 1. This is the first release of this unit of competency in the PUA Public Safety Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria on at least one occasion and includes

- applying Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) organisational requirements
- communicating using approved methods and tools
- conducting analysis of the incident
- determining origin and cause of fire at incident
- displaying evidence gathering and packaging techniques
- participating in briefings
- planning fire or incident investigation and analysis activities
- recording and reporting information collected
- securing, collecting, collating and preserving evidence
- utilising methods and techniques for evidence and information collection

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria and includes knowledge of

- causes of fire including accidental, chemical, deliberate, electrical origin, environmental or natural occurrences, flammable liquids, gas and gas explosions, lightning, matches and lighters, mechanical defects, motor vehicles, smoking and spontaneous combustion
- determination of point of origin through use of evidence
- differences between accidentally, negligently, deliberately or naturally lit fires
- examination of fire scenes
- factors affecting fire behaviour
- fire dynamics such as flash over and back draught
- fire scene and risk investigation hazards
- legal implications of evidence collection
- legal protocols for giving evidence including court practices and procedures, pre-court briefings and rules of evidence
- legislative requirements in relation to fire incident investigation

- organisational documentation including reporting requirements
- organisational policies and procedures including fatality and criminal involvement procedures
- personal protective clothing and equipment
- preservation of evidence including maintaining chain of evidence and log of events
- processes for packaging
- security, contamination and preservation of fire scenes
- techniques for collecting evidence and sources of information
- types of specialist and forensic personnel
- Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) organisational requirements including risk mitigation

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in industry approved simulated workplace operational situations that reflect workplace conditions.

Resources for assessment must include access to

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, equipment, tools and personal protective clothing and equipment currently used in industry including
 - evidence management, handling and packaging resources
 - fire investigation equipment and resources real or simulated, test fire sites and fire crews and pumpers, as required
- applicable documentation including organisational procedures, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

PUAFIR506 Conduct complex prescribed burns

Modification History

Release 2.0 This is the second release of this unit of competency in the PUA Public Safety Training Package.

Editorial update.

Release 1.0 This is the first release of this unit of competency in the PUA Public Safety Training Package.

Application

This unit of competency involves the skills and knowledge required to prepare and conduct complex prescribed burns, in accordance with approved burn plans.

A prescribed burn is the controlled application of fire under specified environmental conditions to a predetermined area and at the time, intensity and rate of spread required to attain planned resource management objectives. An approved prescribed burn plan includes a map identifying the area to be burned and incorporates the specifications and conditions under which the operation is to be conducted.

Complex prescribed burns are characterised by moderate to high risk, a range of fire intensity, being in medium to large areas, having significant potential impact on assets and involving a variety of fuels and terrain. A burn operation may involve a large number of resources requiring the establishment of a formal management and support structure. A prescribed burn may require several separate ignitions (ground and/or aerial) possibly over several days. It may have several high value assets requiring complex protection actions.

The unit applies to personnel responsible for preparing, conducting and evaluating complex prescribed burns on public and private land.

The fire sector is those sections of government departments, statutory authorities or organisations that have responsibility under jurisdictional arrangements for the delivery of firefighting and fire management services.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

It is essential that the prerequisite units listed below are obtained prior to the issuance of this unit to individuals within the fire sector or the units contributing to the attainment of a fire qualification.

PUAFIR303 Suppress wildfire

Competency Field

Fire

Unit Sector

Fire

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to burn

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Complex prescribed burn operations are identified and undertaken, in accordance with approved prescribed burn plan, burn objectives, organisational procedures, and legislative and regulatory requirements
- 1.2** Permits are obtained, in accordance with organisational procedures and legislative and regulatory requirements
- 1.3** Burn notifications and plans are issued to personnel or organisations, in accordance with prescribed burn plan, organisational procedures and legislative requirements
- 1.4** Control lines, including secondary control lines are specified and prepared, in accordance with organisational procedures
- 1.5** Prescribed burn plan, operational hazards and risks to safety of people, property, assets, ecology and environment are identified and risk mitigation works completed
- 1.6** Forecast weather conditions are monitored, recorded and assessed, in accordance with organisational procedures
- 1.7** Fuel conditions are monitored, in accordance with organisational procedures
- 1.8** Resource requirements are confirmed with reference to burn plan and anticipated conditions
- 1.9** Forecast weather conditions are monitored throughout prescribed complex burn

2 Conduct burn

- 2.1** Burn notifications are issued, in accordance with organisational procedures
- 2.2** Pre-burn checks are conducted, in accordance with organisational procedures
- 2.3** Local weather conditions for day of burn are monitored and contingency arrangements actioned and communicated accordingly
- 2.4** Resources are gathered and personnel briefed, in accordance with prescribed burn plan and contingency arrangements
- 2.5** Burn ignition strategies and tactics are implemented, in accordance with prescribed burn plan and organisational procedures including lighting techniques for ground and/or aerial ignition, as relevant to the specific burn, lighting patterns and lighting sequence
- 2.6** Burning is monitored, patrol activities are conducted and operational changes made, as required
- 2.7** Contingencies are implemented, as required, in accordance with prescribed burn plan
- 2.8** Burn documentation is kept, in accordance with organisational procedures
- 2.9** Burn operations are concluded and burn security is implemented in accordance with organisational requirements
- 2.10** Crews are debriefed and resources released from the burn
- 2.11** Incidents are reported and investigated in accordance with organisational procedures

3 Conduct post burn activities

- 3.1** Outcomes of burn are assessed and reported against burn objectives, in accordance with organisational procedures
- 3.2** Variations from burn plan are reported, in accordance with organisational procedures
- 3.3** Restoration and rehabilitation works are identified and carried out, in accordance with organisational procedures
- 3.4** Complex prescribed burn records are submitted, in

accordance with organisational procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

prescribed burn plan must include

- an approved plan for conduct of prescribed burning
- map identifying the area to be burned
- specifications and conditions under which operation is to be conducted

burn objectives must include one or more of the following

- asset protection
- biodiversity protection
- community protection
- habitat management
- hazard reduction
- management of cultural sites and activities
- protection of fire sensitive ecological communities
- vegetation management

operational hazards must include one or more of the following

- adverse terrain or weather conditions
- crew size
- falling trees and limbs
- hazardous materials
- ignition methods
- plant
- road traffic
- vegetation

environmental and ecological risks must include three or more of the following

- impact of smoke
- impact of use of any chemical fire suppressants
- impact on native flora and fauna, including rare and endangered species
- impact on soil
- impact on water quality or supply

contingency arrangements must include

- actions to take in the event of unexpected weather
- command structure
- dealing with escapes
- resource breakdowns
- resource requirements
- safety considerations including escape routes and safety zones
- special resources and/or secondary control lines
- wind changes

personnel or organisations must include one or more of the following

- personnel or organisations who
 - have an interest in managing the consequences of a burn
 - have an interest in preventing health impacts from smoke e.g. nursing homes, health departments
 - have an interest in specific assets
 - have an interest in the area to be burned
 - may be adversely affected by the burn
 - may be concerned by evidence of a burn
 - may have adjacent land to which a burn could spread

resource requirements must include one or more of the following

- contingency resources
- crews for
 - aircraft ground support
 - control and suppression
 - ground ignition

burn ignition strategies and tactics must include:

- equipment and supplies
- logistical support
- tankers and other vehicles
- contingency arrangements
- fire behaviour to be achieved
- ignition methods, lighting patterns, sequencing and timing of ignition

lighting techniques for ground and aerial ignition must include three or more of the following

- hand held drip torch
- aerial drip torch
- aerial incendiaries
- hand held propelled incendiaries
- vehicle mounted propelled incendiaries
- vehicle mounted incendiaries
- wind and/or waterproof matches

lighting patterns must include two or more of the following

- backing fire ignition
- spot or grid ignition
- strip ignition
- flank fire ignition

lighting sequence must include

- fuel arrangement
- fuel moisture
- slope
- time of day
- wind direction

monitoring complex prescribed burn must include four or more of the following

- fire development, shape and spread
- flame height
- fuel moisture content
- predictions
- rate of spread
- safety considerations
- smoke development
- weather observations

conclusion and complex prescribed burn security activities must include

- mitigating hazards for public safety
- mopping up and blacking out
- patrolling burn area
- reopening roads
- transfer of responsibility procedures

outcomes of the complex prescribed burn must include two or more of the following

- achievement of burn objectives
- escapes
- external impacts
- levels of scorch
- percentage of area burnt
- reporting and storage of burn documentation
- all those involved with burn implementation
- any in areas adjacent to burn area
- any permanently or temporarily in burn area
- impact of smoke on vulnerable communities near burn area

safety of people must include

Unit Mapping Information

This unit replaces and is equivalent to PUAFIR511 Conduct complex prescribed burns.

Links

Companion Volume Implementation Guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

Assessment Requirements for PUA FIR506 Conduct complex prescribed burns

Modification History

Release 2.0 This is the second release of this unit of competency in the PUA Public Safety Training Package.

Editorial update.

Release 1.0 This is the first release of this unit of competency in the PUA Public Safety Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions on at least one occasion and includes

- applying Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) organisational requirements including risk mitigation and safe work practices
- concluding burn operations and implementing burn security
- conducting operational briefings and debriefings
- conducting post burn activities
- conducting safe complex prescribed burn operations by utilising appropriate resources (ground and air)
- confirming location, construction and suitability of control lines for prescribed burns
- confirming resources required
- evaluating outcomes against objectives
- identifying and protecting assets
- implementing contingency arrangements
- interpreting and implementing complex prescribed burn plans
- interpreting existing and forecast weather conditions and fire behaviour conditions
- issuing verbal and written burn notifications
- monitoring burn and patrol activities
- preparing to burn
- recording actions taken
- responding to changing conditions
- restoring and rehabilitating sites
- using fire prediction tools
- using monitoring equipment
- utilising lighting techniques and sequencing
- working with ignition patterns and techniques

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions and includes knowledge of

- characteristics of complex prescribed burns including involvement of a variety of fuels and terrain, medium to large areas, moderate to high risk, range of fire intensity and significant potential impact on assets
- contingency plans
- evaluation of burn outcomes against objectives
- fire prediction tools and their use
- fuel sampling techniques
- ground and aerial ignition patterns and techniques
- impact of conditions of a complex prescribed burn on potential fire behaviour
- legislation, industry standards, codes of practice and regulations
- legislative, regulatory and organisational authorisations
- organisational documentation, policies and procedures
- permit requirements
- procedures for monitoring, concluding and securing burn
- resource requirements and capabilities
- restoration and rehabilitation activities including site stabilisation and recording and reporting future restoration and rehabilitation requirement
- seasonal restrictions on prescribed complex burns
- smoke modelling and smoke impacts
- techniques, patterns and sequencing for lighting
- traffic management plans
- types of prescribed complex burns
- types of property and assets within or near burn area including urban areas, commercial land use such as crops or industry, any cultural sites or historical buildings, other property and assets, stock, utilities such as power and telephone lines, water supply, structures and communications towers, camps or recreational areas, plantations and research plots and reference areas
- verbal and written burn notifications
- weather conditions including temperature, relative humidity, wind, atmospheric stability, drought index, fire danger index, weather forecasts and actual or anticipated changes in conditions
- weather monitoring techniques
- Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) organisational requirements including risk mitigation and safe work practices

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training

Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in operational situations or in simulated operational training situations that reflect workplace conditions. Competency should be demonstrated in an operational environment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, equipment, tools and personal protective clothing and equipment currently used in industry including
 - an area for proposed complex prescribed burn
 - authorisation to light burn
 - fire management plans
 - lighting and suppression crews
 - lighting equipment
 - prescribed burn plans including plan for proposed assessment burn
 - suppression equipment
- applicable documentation including organisational procedures, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

PUAFIR509 Implement prevention strategies

Modification History

Release 1. This is the first release of this unit of competency in the PUA Public Safety Training Package.

Application

This unit of competency involves the skills and knowledge required to implement public safety risk prevention strategies which can be used to reduce risks to the community. It includes providing advice on prevention strategies, implementing and monitoring prevention strategies and reviewing the implementation of prevention strategies.

The unit is applicable to personnel required to work with individuals and community groups to implement public safety risk prevention strategies within their area of responsibility.

The fire sector is those sections of government departments, statutory authorities or organisations that have responsibility under jurisdictional arrangements for the delivery of firefighting and fire management services.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Competency Field

Fire

Unit Sector

Fire

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Provide advice on prevention strategies

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Public safety risk prevention strategies are identified from information on hazards and environmental

- conditions
- 1.2 Assessment of public safety risk prevention strategies is conducted using organisational procedures and criteria
 - 1.3 Advice is provided to local forums on public safety risk prevention strategies, in accordance with organisational policies and procedures
 - 1.4 Types of risk, locality, protection of life, property and the environment are assessed in advice provided
- 2 Implement and monitor prevention strategies**
- 2.1 Risk prevention activity is implemented, in accordance with organisational strategies and selected strategies
 - 2.2 Communication and coordination of prevention activities is implemented with relevant authorities and organisations
 - 2.3 Progress reports are provided to stakeholders, in accordance with organisational policies and procedures
- 3 Review implementation of prevention strategies**
- 3.1 Stakeholders are advised of outcome of implementation of prevention strategies, in accordance with organisational policies and procedures
 - 3.2 Recommendations are documented and provided to appropriate personnel, in accordance with organisational procedures, as proposed amendments to prevention strategies

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to PUAFIR509B Implement prevention strategies.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

Assessment Requirements for PUAFIR509 Implement prevention strategies

Modification History

Release 1. This is the first release of this unit of competency in the PUA Public Safety Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria on at least one occasion and includes

- analysing needs through advice from stakeholders
- applying Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) organisational requirements
- briefing local forums
- communicating with stakeholders including providing reports
- completing documentation requirements
- ensuring risk prevention strategies are consistent with organisational community safety policies, procedures and criteria
- implementing and monitoring prevention strategies
- implementing organisational policies and procedures
- providing advice on prevention strategies
- reviewing and assessing implementation of prevention strategies
- reviewing strategies and providing feedback

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria and includes knowledge of

- assessment of public safety risk prevention strategies
- authorities and other responsible organisations
- communication methods and techniques
- emergency management concepts and principles
- legislation, regulations and codes of practice
- organisational criteria for implementing prevention strategies
- organisational documentation, policies and procedures
- participation and/or briefing in local forums
- risk prevention strategies
- source of risk
- stakeholders including authorities

- techniques for prioritisation and evaluation of public safety risk management systems
- Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) organisational requirements including risk mitigation

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in industry approved simulated workplace operational situations that reflect workplace conditions.

Resources for assessment must include access to

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, equipment, tools and personal protective clothing and equipment currently used in industry
- applicable documentation including organisational procedures, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

PUAFIR515 Develop complex prescribed burn plans

Modification History

Release 2.0 This is the second release of this unit of competency in the PUA Public Safety Training Package.

Editorial update.

Release 1.0 This is the first release of this unit of competency in the PUA Public Safety Training Package.

Application

This unit of competency involves the skills and knowledge required to develop complex prescribed burn plans for specified burn areas to achieve identified objectives.

A prescribed burn is the controlled application of fire under specified environmental conditions to a predetermined area at a time, intensity and rate of spread required to attain planned resource management objectives. An approved prescribed burn plan includes a map identifying the area to be burned and incorporates the specifications and conditions under which the operation is to be conducted.

Complex prescribed burns are characterised by moderate to high risk, a range of fire intensity, being in medium to large areas, having significant potential impact on assets and involving a variety of fuels and terrain. The burn operation may involve a large number of resources requiring the establishment of a formal management and support structure. It may require several separate ignitions, ground and/or aerial, possibly over several days and it may include a number of high value assets requiring complex protection actions.

The unit is applicable to personnel responsible for developing complex prescribed burn prescriptions.

The fire sector is those sections of government departments, statutory authorities or organisations that have responsibility under jurisdictional arrangements for the delivery of firefighting and fire management services.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

It is essential that the prerequisite units listed below are obtained prior to the issuance of this unit to individuals within the fire sector or the units contributing to the attainment of a fire qualification.

PUAFIR303 Suppress wildfire

Competency Field

Fire

Unit Sector

Fire

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Identify burn area and burn objectives

2 Prepare prescribed burn plan for a complex burn

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1 Areas requiring complex prescribed burn plans are identified, in accordance with organisational and permit procedures and legislative and regulatory requirements
- 1.2 Burn objectives are identified and consultation process is undertaken, in accordance with organisational procedures
- 1.3 Target consultation groups are identified, and consultation process is initiated, in accordance with organisational procedures
- 1.4 Legislative and regulatory requirements are identified and complied with throughout planning process
- 2.1 Key features of burn area are identified including variations in terrain, fuel types and quantities, control lines and weather
- 2.2 Risks from the proposed burn, both on and off site, are assessed and considered in planning process including operational hazards, safety of people, protection of property, assets, environmental and ecological risks
- 2.3 Results of consultation are factored into the planning process, in accordance with organisational procedures
- 2.4 Fire behaviour to meet burn objectives and to account for variations in fuel, terrain and weather is determined
- 2.5 Burn ignition strategies and tactics suited to location that provide required fire behaviour and intensity are determined, in accordance with organisational

procedures

- 2.6 Lighting techniques and patterns for both ground based and/or aerial ignition for specific burn are identified
 - 2.7 Strategies for mitigating hazards and risks are identified and preparatory works are planned
 - 2.8 Strategies and tactics for controlling prescribed burn are identified
 - 2.9 Type and quantity of resources required are identified
 - 2.10 Conditions for implementation of burn ignition strategies and tactics are specified, in accordance with organisational procedures
 - 2.11 Prescribed burn plan is prepared, in accordance with organisational procedures
 - 2.12 Contingencies are outlined in prescribed burn plan
- 3 Gain prescribed burn plan approval**
- 3.1 Prescribed burn plan is submitted for approval, in accordance with legislative and organisational requirements
 - 3.2 Modifications and amendments to prescribed burn plan are made, based on feedback received
 - 3.3 Prescribed burn plan approval is gained

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

complex prescribed burn plans must include

- approved plan for conduct of prescribed burning
- map identifying area to be burned
- specifications and conditions under which operation is to be conducted

burn objectives must include one or more of the following

- asset, biodiversity and community protection
- habitat management
- hazard reduction
- management of cultural sites and activities
- protection of fire sensitive ecological communities
- vegetation management

target consultation groups must include one or more of the following

- adjacent land owners or managers
- commercial operations within impact zone
- community groups with specific interests
- government organisations including local, state and federal
- other groups and people within the prescribing organisation
- people that may be affected by burn

burn ignition strategies and tactics must include

- contingency planning
- fire behaviour to be achieved
- ignition methods, sequencing and timing of ignition

lighting techniques for ground and aerial ignition must include three or more of the following

- hand held drip torch
- aerial drip torch
- aerial incendiaries
- hand held propelled incendiaries
- vehicle mounted propelled incendiaries
- vehicle mounted incendiaries
- wind and/or water proof matches

lighting patterns must include two or more of the following

- backing fire ignition
- spot or grid ignition
- strip ignition
- flank fire ignition

operational hazards must include two or more of the following

- adjoining land use and proximity to urban areas
- adverse terrain or weather conditions
- crew size
- falling trees and limbs
- hazardous materials
- high fuel loads
- ignition method
- plant
- powerlines
- road traffic
- vegetation type

safety of people must include two or more of the following

- impact of smoke on vulnerable communities near the burn area
- safety of any people permanently or temporarily in burn area
- safety of people involved with burn implementation
- safety of people on areas adjacent to burn area

property and assets must include two or more of the following

- any of the following that are in or near the burn area
 - camps or recreational areas
 - commercial land use such as crops or industry
 - cultural sites or historical buildings
 - other property and assets
 - plantations
 - research plots and reference areas
 - stock
 - urban areas
 - utilities - power and telephone lines, water supply structures and communications towers

environmental and ecological risks must include

- impact of native flora and fauna including rare and endangered species
- impact of smoke
- impact of soil
- impact of use of chemical fire suppressants
- impact on water quality or supply

resources required must include one or more of the following

- aircraft and crews including incendiary operations supervisors and machine operators for aerial ignition
- aircraft ground support
- control line standards
- crews and supervisors for ground ignition, control and patrol work
- equipment and supplies including fuel and incendiaries
- planning and logistical support
- pre-burn work schedule
- tankers, other ignition and suppression vehicles, equipment and fuel

Unit Mapping Information

This unit replaces and is equivalent to PUAFIR513 Develop complex prescribed burn plans.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

Assessment Requirements for PUA FIR515 Develop complex prescribed burn plans

Modification History

Release 2.0 This is the second release of this unit of competency in the PUA Public Safety Training Package.

Editorial update.

Release 1.0 This is the first release of this unit of competency in the PUA Public Safety Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions on at least one occasion and includes

- applying legislative, regulatory, organisational and permit requirements
- applying Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) organisational requirements including risks mitigation and safe work practices
- assessing characteristics of multiple fuel types, terrain and weather
- developing a pre-burn work schedule
- developing contingency arrangements
- documenting complex prescribed burn plans including objectives
- gaining complex prescribed burn approval
- identifying actions to minimise impacts of complex prescribed burn preparation
- identifying resources
- identifying, assessing and mitigating operational hazards and risks including to people, property, assets, ecology and environment
- identifying, liaising and consulting with target consultation groups
- interpreting maps of area and identifying key features
- predicting fire behaviour and intensity in burn area
- preparing maps for complex burn operational use
- preparing plans for complex prescribed burns including developing lighting techniques and patterns for ground and/or aerial ignition, tactics involving multiple fuel types, ignition strategies, burn objectives, strategies and tactics to meet objectives and timelines for planning and conduct of burn
- recommending actions and communicating them
- responding to feedback and adjusting plans for approval

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions and includes knowledge of

- accumulated fuels
- burn feasibility
- characteristics of complex prescribed burn including medium to large areas, moderate to high risk, range of fire intensity, significant potential impact on assets and variety of fuels and terrain
- complex prescribed burning ignition and suppression strategies including ignition patterns and sequences for ground and aerial
- contingency arrangements
- control line suitability
- effects of fire on people, property, assets, ecology and environment
- fire prediction tools
- fuel sampling techniques
- legislative, regulatory, organisational and permit requirements
- organisational documentation, policies and procedures including pre-burn procedures
- planned burn hazards and risks
- resource capabilities
- smoke modelling
- traffic management
- Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) organisational requirements including risk mitigation and safe work practices
- written and verbal notification requirements

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in operational situations or in simulated operational training situations that reflect workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, equipment, tools and personal protective clothing and equipment currently used in industry including

- area requiring application of fire under prescribed conditions
- existing management plans and data relevant to area being prescribed
- applicable documentation including organisational procedures, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

PUALAW001 Protect and preserve incident scene

Modification History

Release 1. This is the first release of this unit of competency in the PUA Public Safety Training Package.

Application

This unit of competency involves the skills and knowledge required to conduct an initial assessment on receipt of a call, when enroute and/or at the incident and to then take action to maintain public safety, preserve scene and record details and information on arrival at the scene of an accident or incident.

The unit is applicable personnel who are the first to arrive at the scene of an accident or incident. It applies to public safety personnel at an incident who need to understand the importance of maintaining the legal integrity of a scene.

The fire sector is those sections of government departments, statutory authorities or organisations that have responsibility under jurisdictional arrangements for the delivery of firefighting and fire management services.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Competency Field

Fire

Unit Sector

Fire

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1 Secure and preserve scene 1.1 Participation in initial assessment when enroute and at

the incident is undertaken to identify factors which will impact on public safety and scene preservation

- | | |
|--|--|
| 2 Record and report details of incident scene | <p>1.2 Incident and/or accident site is secured to preserve the scene, identify evidence and area of origin and to maintain public safety, in accordance with legislative requirements</p> <p>2.1 Details of the scene are noted, recorded and reported, in accordance with organisational policies and procedures</p> <p>2.2 Witness details and information volunteered is recorded, in accordance with organisational and legislative requirements</p> <p>2.3 Information is communicated to relevant personnel, in line with organisation's procedures</p> |
|--|--|

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

types of incident scene must include one or more of the following

- aircraft
- animal incident
- crime scene
- explosions
- hazardous materials
- incident involving death or injury to person or damage to property
- industrial/mining accident
- marine
- natural disaster
- search for missing persons or evidence
- structure fire
- train
- urban scene
- vehicle accident
- vehicle fire

- wildfire

Unit Mapping Information

This unit replaces and is equivalent to PUALAW001B Protect and preserve incident scene.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

Assessment Requirements for PUALAW001 Protect and preserve incident scene

Modification History

Release 1. This is the first release of this unit of competency in the PUA Public Safety Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions on at least one occasion and includes

- applying questioning skills to gain accurate information
- applying Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) organisational requirements
- communicating information and liaising with all stakeholders
- conducting assessment enroute and at the incident scene
- implementing organisational policies and procedures
- observing scene and surrounding environment
- recording and reporting details of incident scene in accordance with organisational requirements
- securing and preserving scene, evidence and area or origin
- securing scene including removing non-emergency personnel from scene, isolating scene and erecting barriers
- taking notes accurately

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions and includes knowledge of

- factors impacting on public safety and scene preservation including those that could impact on safety of investigators, response team, security and/or preservation of actual site, security and preservation of situational evidence and traffic
- factors that may impact security of scene including topography, climatic conditions, human interference, animal interference, preservation of life/property, structural integrity and availability of personnel
- methods of securing scene
- organisational and legislative requirements
- organisational documentation, policies and procedures
- organisational procedures relative to scene preservation, collecting information and taking

witness details

- tactical factors affecting quality of investigation including environmental circumstances, chronology of events, access to scene, number of persons at scene, availability of support services and boundaries
- types of incident scenes
- witness details including name, contact details and other details are recorded, in accordance with organisational policies, procedures and legislative requirements
- Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) organisational requirements including risk mitigation

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in industry approved simulated workplace operational situations that reflect workplace conditions.

Resources for assessment must include access to

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, equipment, tools and personal protective clothing and equipment currently used in industry
- applicable documentation including organisational procedures, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

PUALAW002 Conduct initial investigation at incident scene

Modification History

Release 1. This is the first release of this unit of competency in the PUA Public Safety Training Package.

Application

This unit involves the skills and knowledge required to gather and collate information including obvious and accessible physical evidence from the scene of an incident and identifying potential witnesses. It does not cover the specialist skills required to interpret the evidence gathered or the specialist skills required to gather specific evidence.

The unit applies to non-specialist personnel who have been tasked with the collection of information and evidence that is obvious at an incident scene.

The fire sector is those sections of government departments, statutory authorities or organisations that have responsibility under jurisdictional arrangements for the delivery of firefighting and fire management services.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Competency Field

Fire

Unit Sector

Fire

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Conduct initial assessment 1.1 of scene

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

Scene is assessed with regards to Work, Health and Safety (WHS)/Occupational Health and Safety (OHS)

and all actions are undertaken, in accordance with organisation policies, procedures, guidelines and duty of care requirements

- 1.2** Communication is established with the senior investigating officer and liaison is maintained throughout the investigation
 - 1.3** Circumstances surrounding the scene are ascertained from visual assessment and reports from other personnel
 - 1.4** Scene boundary is defined or redefined, as required, to preserve physical evidence for collection
 - 1.5** Obvious and accessible physical evidence is located and, where appropriate, protected from possible contamination
- 2 Control integrity of scene**
- 2.1** Appropriate arrangements for scene access and egress are established and maintained
 - 2.2** Non-essential persons are removed from the scene and details are recorded accurately, in accordance with organisation and regulatory procedures
 - 2.3** Additional resources are identified and accessed to secure incident scene
 - 2.4** Health and safety needs of personnel and public involved in incident are identified and attended to
- 3 Examine scene**
- 3.1** Appropriate search pattern is instigated, in accordance with organisational procedures, and instructions from senior investigating officer to ensure all evidence is located and preserved
 - 3.2** Details of the scene are recorded comprehensively and accurately, in accordance with organisational operating procedures
 - 3.3** Evidence is located, collected, packaged, labelled and stored, in accordance with organisational procedures, to ensure preservation for further post scene examination
 - 3.4** An accurate log of all evidence is maintained, in accordance with organisational procedures
 - 3.5** Scenes are assessed for future investigative requirements and appropriate personnel are notified

4 Identify potential witnesses and initial statements recorded

- 4.1** Bystanders are canvassed to identify potential witnesses
- 4.2** Details of potential witnesses are recorded, in accordance with organisational procedures
- 4.3** Recording practices are used, in accordance with legislative and regulatory requirements and organisational policies and procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

- incident scene must include at least two of the following
- accident or incident involving death or injury to person or damage to property
 - crime scene
 - industrial or mining accidents and incidents
 - natural disaster
 - structural fire
 - vehicle accident
 - vehicle fire
 - wildfire

Unit Mapping Information

This unit replaces and is equivalent to PUALAW002B Conduct initial investigation at incident scene.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

Assessment Requirements for PUALAW002 Conduct initial investigation at incident scene

Modification History

Release 1. This is the first release of this unit of competency in the PUA Public Safety Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions on at least one occasion and includes

- applying Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) organisational requirements
- communicating information and liaising with stakeholders
- conducting initial assessment of scene and identifying and mitigating onsite hazards
- controlling integrity of scene and evidence
- examining scene thoroughly
- gathering physical evidence
- identifying potential witnesses and recording initial statements
- implementing legislative requirements and organisational policies and procedures
- implementing methodical and systematic approach
- making arrangements to protect integrity of evidence
- reassuring bystanders including listening and questioning them
- recording and compiling interviews and statements accurately
- recording and reporting details of incident scene in accordance with organisational requirements
- taking notes accurately
- working with a variety of professionals

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions and includes knowledge of

- additional resources to support initial investigation
- arrangements for protecting integrity of evidence
- circumstance initiating need for specialised investigations
- circumstances surrounding scene including sequence of events, possible causes, people and property involved, victims, suspects and witnesses, damage, injury, organisational personnel,

- other organisations and agencies, status of investigation and action taken to date
- details that may be relevant to the investigation
- factors impacting incident scene including prevailing weather, additional resources to preserve and protect incident scene, environmental circumstances, chronology of events, access to scene, number of persons at scene, availability of support services, boundaries and other organisations and/or agencies
- factors impacting security of an incident scene
- features and use of a variety of specialised equipment
- functions and roles of other professionals and experts
- identification, collection and recording of evidence
- incident scene protection and preservation
- indicators of emotional distress
- methods of evidence collection
- methods of packaging
- organisational documentation policies and procedures
- public safety risk factors including factors at incident scene that could impact on safety of investigators and security or preservation of actual site and security and preservation of situational evidence
- scene access and egress
- types of physical evidence including shoe impressions, tyre prints, skid marks, fingerprints, containers, fibres, flammable and combustible liquids, tool marks, bloodstains, identifying numbers, bodily fluids and burn patterns
- Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) organisational requirements including risk mitigation and duty of care at incident scene

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in industry approved simulated workplace operational situations that reflect workplace conditions.

Competency should be assessed either indoors or outdoors in a rural or urban environment.

Resources for assessment must include access to

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, equipment, tools and personal protective clothing and

equipment used in industry

- applicable documentation including organisational procedures, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

PUAOPE013 Operate communications systems and equipment

Modification History

Release 1. This is the first release of this unit of competency in the Public Safety Training Package.

Application

This unit of competency involves the skills and knowledge required to transmit and receive communications in routine and operational situations using the organisation's communications systems and equipment.

The unit is applicable to personnel who are required to operate an organisation's communications systems and equipment in support of the tasks they are undertaking. This may occur either in the field or from a facility.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Competency Field

Operations

Unit Sector

Public Safety

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Use communications systems and equipment

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Communications equipment and techniques, including verbal transmissions and voice procedures, are selected to best meet the task, context and needs of the situation
- 1.2** Equipment is operated safely to support communications

- consistent with organisational policies and procedures
- 1.3** Communications system is correctly utilised to facilitate transmission and reception
- 2 Transmit and receive communications**
- 2.1** Information is transmitted concisely and clearly to facilitate accurate reception of the message, in accordance with organisational policies and procedures
- 2.2** Contact is acknowledged, communication is confirmed, and action is initiated
- 2.3** Communication faults and deficiencies are reported, in accordance with organisational policies and procedures
- 2.4** Alternative communications strategies are employed, in accordance with organisational procedures, to address identified faults and deficiencies in communication
- 2.5** Communication is processed and recorded, in accordance with organisational policies and procedures
- 3 Maintain communications equipment**
- 3.1** Communications equipment is inspected to ensure operational readiness
- 3.2** Fault finding techniques are applied and basic maintenance is conducted, in accordance with organisational policies and procedures
- 3.3** Faulty equipment is identified and noted for repair and documentation is completed, in accordance with organisational procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

organisation's communications equipment must include

- radio
- telephone

Unit Mapping Information

This unit replaces and is equivalent to PUAOPE013A Operate communications systems and equipment.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

Assessment Requirements for PUAOPE013 Operate communications systems and equipment

Modification History

Release 1. This is the first release of this unit of competency in the Public Safety Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions on at least one occasion and includes

- applying Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) requirements
- following organisational protocols, policies and procedures
- maintaining communications equipment
- making verbal transmissions
- operating a range of different communications equipment
- reporting communication faults and deficiencies
- transmitting and receiving communications using the organisation's communications systems and equipment
- using communications systems and equipment under non-operational and operational conditions
- using verbal communication procedures
- using voice techniques

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions and includes knowledge of

- organisational documentation, policies and procedures
- range of communications equipment available
- types of and use of communications systems including organisational networks and hardware
- verbal transmission procedures
- voice techniques
- Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) requirements including risk mitigation

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in industry approved simulated workplace operational situations that reflect workplace conditions.

Resources for assessment must include access to

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, equipment, tools and personal protective clothing and equipment currently used in industry including
 - communications systems and equipment
- applicable documentation including organisational procedures, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

PUAOPE014 Navigate to an incident

Modification History

Release 1. This is the first release of this unit of competency in the PUA Public Safety Training Package.

Application

This unit of competency involves the skills and knowledge required to navigate to an incident in urban and rural environments.

The unit is applicable to personnel who are required to make decisions about the most appropriate route to an incident. This involves determining the current location of personnel, destination and resources required, planning the route, navigating to the destination and completing any post navigating activities.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable

Competency Field

Operations

Unit Sector

Public Safety

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Determine current location, destination and resources

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Incident and task information is obtained, in accordance with organisational procedures
- 1.2** Navigational maps and equipment are gathered and

- checked
- 1.3** Positional information and navigation techniques are applied to plot positions on a map and to determine current location and destination within accepted tolerances
- 2 Plan a safe route**
- 2.1** Navigation plans are prepared, in accordance with organisational procedures and practices
 - 2.2** Maps, navigation techniques, map features, local and environmental conditions are interpreted to plan a safe and timely route to incident
 - 2.3** Potential access restrictions which may limit thoroughfare are identified and arrangements are made to gain access, in accordance with organisational policies, procedures and regulatory requirements
- 3 Navigate to destination**
- 3.1** Navigation plans and aids are used to follow planned route
 - 3.2** Indicated route is communicated and followed, as required
 - 3.3** Current location is regularly verified within accepted tolerances
 - 3.4** Route is modified to address prevailing conditions and, if required, alternate route strategies are initiated
 - 3.5** Unanticipated access difficulties are reported, in accordance with organisational policies and procedures
 - 3.6** En-route and arrival reporting information is communicated, in accordance with organisational policies and procedures
- 4 Complete post navigational activities**
- 4.1** Reporting requirements are completed, in accordance with organisational policies and procedures
 - 4.2** Navigational equipment and aids are recovered, reset, updated, serviced and stored, in accordance with operational procedures and manufacturers' specifications

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of

competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to PUAOPE014A Navigate to an incident.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

Assessment Requirements for PUAOPE014 Navigate to an incident

Modification History

Release 1. This is the first release of this unit of competency in the Public Safety Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria on at least one occasion and includes

- applying Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) requirements
- collecting incident and task information
- demonstrating navigation to an incident in urban and/or rural locations
- determining current location, destination and resources
- following organisational policies and procedures
- identifying natural and cultural features for transport modes
- maintaining and completing organisational documentation
- meeting reporting requirements
- planning a safe route
- reacting to changes in operating environment that requires replanning of route
- recovering and making operationally ready navigational equipment
- reporting using communication systems, methods and techniques
- using maps and navigation aids

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria and includes knowledge of

- areas requiring permission and/or authorisation to enter
- communication systems, methods and techniques
- different tasks individual personnel should be given
- environmental conditions that might be encountered whilst navigating
- grid and/or magnetic conversion
- map types and their features
- methods of communicating locations and routes
- methods of determining current location
- navigational equipment characteristics and liabilities

- organisational documentation, policies and procedures including roles and responsibilities
- reporting requirements
- route planning techniques, calculations and accepted tolerances
- types of incidents the organisation responds to
- types of navigation techniques
- Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) requirements including risk mitigation

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in industry approved simulated workplace operational situations that reflect workplace conditions.

Resources for assessment must include access to

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, equipment, tools and personal protective clothing and equipment currently used in industry including
 - navigation equipment
- applicable documentation including organisational procedures, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

PUAOPE016 Manage a multi-team sector

Modification History

Release 2.0 This is the second release of this unit of competency in the Public Safety Training Package.

Editorial adjustments and clarification of text in Assessment Conditions.

Release 1.0 This is the first release of this unit of competency in the PUA Public Safety Training Package.

Application

This unit of competency involves the skills and knowledge required to manage a multi-team response at an incident which may be time critical and/or potentially threatening to life, property or the environment.

An individual performing in this role has the title of Sector or Division Commander and/or Level 1 Operations Officer and is delegated responsibility by either the Incident Controller or Operations Officer. The individual is responsible for managing a sector or division at an incident.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

The fire sector is those sections of government departments, statutory authorities or organisations that have responsibility under jurisdictional arrangements for the delivery of firefighting and fire management services.

It is essential that the prerequisite units listed below are obtained prior to the issuance of this unit to individuals within the fire sector or the units contributing to the attainment of a fire qualification.

One of the following

PUAFIR302 Suppress urban fire

PUAFIR303 Suppress wildfire.

Competency Field

Operations

Unit Sector

Public Safety

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1 Conduct assessment of incident

- 1.1 Initial briefing is obtained, in accordance with organisational procedures
- 1.2 Risk assessment of all factors relevant to the sector is conducted
- 1.3 Resources for the incident are identified
- 1.4 Constraints which may impede the response are identified
- 1.5 Initial response options are identified and assessed

2 Take command of sector

- 2.1 Command of all sector personnel is established and maintained, in accordance with organisational policies and procedures
- 2.2 Communications systems are used, in accordance with organisational policies and procedures
- 2.3 Reporting processes are activated, in accordance with organisational policies and procedures, to provide continuous monitoring and evaluation of incident

3 Implement operations portion of IAP

- 3.1 Incident Action Plan (IAP) is communicated to teams, in accordance with organisational procedures
- 3.2 Resources are deployed within area of operations to ensure portion of the IAP is implemented, in accordance with organisational procedures
- 3.3 Operations are conducted and monitored, in accordance with the IAP
- 3.4 Operational reports are issued, in accordance with organisational policies and procedures
- 3.5 Operations are modified, as required, to suit the situation

4 Manage and monitor sector operations

- 4.1 Sector is managed, in accordance with organisational policies and procedures
- 4.2 Safe work practices and health and welfare procedures

and arrangements are implemented and monitored

- 4.3 Strategies are implemented, and tactics are determined, in accordance with the IAP
 - 4.4 Team leaders are briefed on Incident Controller's intent and are tasked, in accordance with the IAP
 - 4.5 Specific tasks are reviewed and modified, as required
 - 4.6 Regular exchange of information is maintained within the chain of command on incident situation, progress, achievement of incident objectives and identified risks
 - 4.7 Unexpected situations that require a quick and decisive response are recognised and responded to in accordance with the Incident Controller's intent
 - 4.8 Situation reports are provided through the chain of command on required modification to the IAP, including additional resources required, surplus resources and hazards present
 - 4.9 Need for logistical support is identified and communicated through the chain of command
 - 4.10 IAP activities are coordinated with adjacent sectors
- 5 Manage post incident operations**
- 5.1 Resources are accounted for and demobilised, in accordance with organisational requirements
 - 5.2 Post operational documentation is completed, in accordance with organisational procedures
 - 5.3 Sector debriefing is conducted, in accordance with organisational procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to PUAOPE016A Manage a multi-team sector.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

Assessment Requirements for PUAOPE016 Manage a multi-team sector

Modification History

Release 2.0 This is the second release of this unit of competency in the Public Safety Training Package.

Editorial adjustments and clarification of text in Assessment Conditions.

Release 1.0 This is the first release of this unit of competency in the PUA Public Safety Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria on at least one occasion and includes

- accessing information and support the chain of command
- adapting tactics
- applying Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) requirements
- assessing effectiveness of strategies and tactics on sector or division
- briefing and debriefing personnel
- completing documentation
- conducting an assessment of the area of operation
- deploying and managing human and physical resources
- establishing command of sector or division
- following organisational policies and procedures
- identifying and assessing risks
- implementing operations portion of the incident action plan
- leading teams
- maintaining shared situational awareness
- making decisions, negotiating and resolving conflict
- managing and monitoring sector or division operations
- managing post incident operations including demobilisation arrangements
- providing reports through the chain of command
- using communications systems.

Knowledge Evidence

- Australasian Inter-service Incident Management System (AIIMS) structure
- constraints on actions that may limit available options
- equipment and personnel capabilities for incident type

- human and physical resources available for the incident
- incident action plan objectives, strategies and tactics including Incident Controller's intent
- incident site layouts
- initial response options
- organisational command structure
- organisational policies, procedures and documentation for managing operations
- post operational procedures
- processes for implementing, monitoring, amending and reviewing strategies and tactics
- requirements for reporting and recording
- risk assessment
- types of incidents
- Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) requirements including risk mitigation.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in operational situations or in simulated operational training situations that reflect workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to

- a range of relevant exercises, case studies and/or simulations
- appropriate materials, equipment, tools and personal protective clothing and equipment currently used in industry
- applicable documentation including organisational procedures, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

PUATEA001 Work in a team

Modification History

Release 1. This is the first release of this unit of competency in the Public Safety Training Package.

Application

This unit of competency involves the skills and knowledge required to work with others whilst making a positive contribution to the effectiveness and efficiency of a team in a work environment, when under direct supervision. Limited responsibility towards others is required.

The unit applies to personnel working in public safety and is particularly pertinent to new staff in assisting with integration into the team culture of the organisation.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable

Competency Field

Team work

Unit Sector

Not applicable

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Contribute to team activities

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Roles and responsibilities of team members are recognised

1.2 Contribution is made to identifying team goals and objectives

- 1.3 Work activities are completed to required standards and within stated timeframes, in accordance with organisational policies and procedures
- 1.4 Assistance in the completion of tasks is requested from other team members
- 1.5 Team members are assisted to ensure efficient and safe completion of tasks, in accordance with organisational policies and procedures
- 1.6 Participation by team members is encouraged and acknowledged
- 1.7 Changes in allocated roles and responsibilities are implemented, in accordance with organisational procedures
- 1.8 Team meetings are attended regularly, punctually and are contributed to, in accordance with organisational procedures
- 2 **Share knowledge and information**
 - 2.1 Information related to work is communicated with team members to enable efficient completion of tasks, in accordance with the organisational policies and procedures
 - 2.2 Knowledge and skills are shared between team members
- 3 **Give and receive support to or from team members**
 - 3.1 Feedback or assistance is given to other team members in an appropriate and timely manner
 - 3.2 Team members are supported in achieving organisational goals
 - 3.3 Feedback from other team members is acted upon, in accordance with organisational procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to PUATEA001B Work in a team.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

Assessment Requirements for PUATEA001 Work in a team

Modification History

Release 1. This is the first release of this unit of competency in the Public Safety Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria on at least one occasion and includes

- applying Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) requirements
- attending and working in a variety of team situations
- completing organisational documentation
- contributing to organisational goals and team activities, team meetings and the achievement of tasks consistent with goals
- displaying interpersonal skills and encouraging team members
- following instructions
- following organisational policies and procedures
- giving and receiving support to and from team members
- identifying work conditions and types of activities to be undertaken
- listening and using a variety of communication skills
- providing appropriate suggestions, feedback and information to team members
- reporting information
- requesting assistance from appropriate personnel
- sharing knowledge and information

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria and includes knowledge of

- composition of teams including roles and responsibilities of members
- nonoperational and operational communication processes
- organisational documentation, policies and procedures
- organisational goals and activities
- potential work task conditions
- techniques for assisting and supporting others
- techniques for giving and receiving feedback in a constructive manner
- Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) requirements including risk mitigation

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, equipment, tools and personal protective clothing and equipment currently used in industry
- applicable documentation including organisational procedures, industry standards, equipment specifications, regulations, codes of practice and operational manuals.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

PUATEA002 Work autonomously

Modification History

Release 1. This is the first release of this unit of competency in the Public Safety Training Package.

Application

This unit of competency involves the skills and knowledge required to work as a member of a team, or as an individual for periods of time without direct supervision, and to mentor and coach either in an operational or nonoperational environment.

The unit applies to personnel working in public safety but is particularly pertinent to new staff seeking to understand and apply organisational expectations and limits with regards to decision making.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

The fire sector is those sections of government departments, statutory authorities or organisations that have responsibility under jurisdictional arrangements for the delivery of firefighting and fire management services.

It is essential that the prerequisite units listed below are obtained prior to the issuance of this unit to individuals within the fire sector or the units contributing to the attainment of a fire qualification.

PUATEA001 Work in a team

Competency Field

Team work

Unit Sector

Not applicable

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential Performance criteria describe the performance needed to

outcomes.

demonstrate achievement of the element.

- | | |
|---------------------------------------|---|
| 1 Undertake work activities | <p>1.1 Work requirements are identified, and activities are undertaken, in accordance with organisational procedures</p> <p>1.2 Instructions and directions are identified and implemented</p> <p>1.3 Communication is maintained with team leader or supervisor advising of progress of task activity</p> <p>1.4 Personal safety and the safety of others is maintained, in accordance with organisational procedures</p> <p>1.5 Legal requirements and/or the ramifications of work activities are communicated to the team leader or supervisor</p> <p>1.6 Work area is determined or selected, in accordance with organisational procedures</p> <p>1.7 Equipment is operated, in accordance with manufacturers' specifications</p> <p>1.8 Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) and organisational policies and procedures are applied</p> |
| 2 Accept responsibilities | <p>2.1 Responsibilities are accepted, in accordance with organisational policies and procedures</p> <p>2.2 Team leader is appraised of the outcome of work task activity</p> <p>2.3 Any activity that exceeds the scope of the defined task is referred to the team leader or supervisor</p> |
| 3 Set performance requirements | <p>3.1 Performance requirements are based on organisational objectives and goals and agreed to with the team leader or supervisor</p> <p>3.2 Performance requirements are reviewed with the team leader or supervisor</p> |
| 4 Maintain team performance | <p>4.1 Individual performance is monitored against organisational performance requirements and appropriate action is taken to maintain performance, as required</p> |

- 4.2 Performance of others is monitored, in accordance with organisational procedures and appropriate action is taken through coaching and mentoring to ensure team objectives and goals are met
 - 4.3 Feedback and constructive advice is provided to the supervisor or team leader
 - 4.4 Issues which cannot be rectified or addressed are referred to the supervisor or team leader for action, in accordance with organisational policies and procedures
 - 4.5 Supervisor or team leader is advised of any changes in work priorities or tasks
 - 4.6 Documentation relevant to team and individual performance is completed, in accordance with organisational procedures
- 5 Act as a team leader**
- 5.1 Responsibility for the performance of the team is accepted
 - 5.2 Work goals are set, tasks are identified and are presented to team members
 - 5.3 Instructions and directions are communicated to team members clearly and unambiguously
 - 5.4 Team members' concerns and queries are recognised, discussed and dealt with
 - 5.5 Legal requirements or ramifications of work activities are communicated to team members
 - 5.6 Duties, rosters and responsibilities are allocated to team members having regard to the competency required to undertake assignments or tasks, in accordance with organisational policies and procedures
 - 5.7 Feedback on own performance is sought
 - 5.8 Level of authority is recognised and adhered to when acting as a team leader
 - 5.9 Operational debriefing is conducted, in accordance with the organisational procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to PUATEA002B Work autonomously.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

Assessment Requirements for PUATEA002 Work autonomously

Modification History

Release 1. This is the first release of this unit of competency in the Public Safety Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria on at least one occasion and includes

- accepting work task or activity responsibilities
- applying Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) requirements
- assessing the impact of legal requirements on activities
- carrying out team leader responsibilities including coaching and mentoring team members
- communicating performance expectations including providing feedback
- completing a range of organisational documentation
- conducting debriefings
- conveying work activity or task instructions and directions
- encouraging and monitoring team members' performance
- following organisational policies and procedures
- identifying and undertaking work activities
- identifying conditions and working area impacts
- implementing team building activities
- maintaining team performance
- offering informal performance counselling
- performing operational and nonoperational activities
- representing and reporting issues to management
- scoping of allocated tasks
- setting goals, identifying tasks, allocating duties, rosters and responsibilities
- setting performance requirements

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria and includes knowledge of

- impact of performance issues
- legal requirements and ramifications of team activities
- methods of setting performance expectations and monitoring performance
- organisational documentation, policies and procedures

- possible work areas and conditions
- requirements for documenting team performance and work activities or tasks
- scope of operational and nonoperational activities
- team dynamics
- team members' duties and responsibilities including team leader responsibilities
- Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) requirements including personal safety, safety of others, duty of care responsibilities and risk mitigation

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in industry approved simulated workplace operational situations that reflect workplace conditions.

Resources for assessment must include access to

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, equipment, tools and personal protective clothing and equipment currently used in industry
- applicable documentation including organisational procedures, industry standards, equipment specifications, regulations, codes of practice and operational manuals.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

PUAWHS002 Maintain safety at an incident scene

Modification History

Release 1. This is the first release of this unit of competency in the Public Safety Training Package.

Application

This unit of competency involves the skills and knowledge required to recognise potential health and safety risks and to then act to eliminate or control those risks at incident scenes and to prevent injury to self, other personnel or members of the public.

The unit is applicable to public safety personnel attending an incident scene and links to the individual's duty of care responsibility to maintain personal safety and to be aware of how actions affect the safety of others including team members, other agency/organisational personnel and the public.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

The fire sector is those sections of government departments, statutory authorities or organisations that have responsibility under jurisdictional arrangements for the delivery of firefighting and fire management services.

It is essential that the prerequisite units listed below are obtained prior to the issuance of this unit to individuals within the fire sector or the units contributing to the attainment of a fire qualification.

PUAFIR210 Prevent injury

Competency Field

Work, Health and Safety

Unit Sector

Public Safety

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential Performance criteria describe the performance needed to

outcomes.

demonstrate achievement of the element.

1 Determine hazards at incident site

- 1.1 Site hazards affecting the safety of self or other personnel are identified, risks are assessed and are communicated with others at the scene
- 1.2 Operational safety procedures are implemented, in accordance with organisational policies and procedures
- 1.3 Duties are undertaken, in accordance with Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) requirements

2 Implement hazard controls at incident scene

- 2.1 Hazards are identified, and mitigation procedures are selected, in accordance with organisational procedures
- 2.2 Control measures are applied, reported and recorded, in accordance with organisational policies and procedures
- 2.3 Changes in incident situation or conditions are reported immediately to designated personnel
- 2.4 Hazard controls are monitored and communicated to relevant personnel to ensure continuing effectiveness
- 2.5 Hazard control and risk mitigation measures are implemented with minimum damage to the environment, whilst maintaining safety of self and others
- 2.6 Incident and/or accident scene is secured to preserve the scene and maintain public safety, in accordance with organisational policies and procedures

3 Maintain personal safety

- 3.1 Personal protective clothing and equipment is selected and checked, in accordance with organisational procedures, to ensure it is operational prior to entry into incident situation
- 3.2 Personal protective clothing and equipment appropriate to dealing with the hazard is worn and used, in accordance with organisational procedures and manufacturers' guidelines
- 3.3 Water and food intake, rest breaks and shelter requirements are maintained
- 3.4 Survival techniques and/or strategies are implemented, in accordance with organisational policies, procedures

and guidelines

- 4 Contribute to maintaining safety of other group members**
- 4.1** Impact of own or others' actions on safety is considered and modified, as required
 - 4.2** Contact is maintained with group members, in accordance with organisational procedures
 - 4.3** Signals are correctly used, interpreted, confirmed and acted upon

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to PUAOHS002B Maintain safety at an incident scene.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

Assessment Requirements for PUAWHS002 Maintain safety at an incident scene

Modification History

Release 1. This is the first release of this unit of competency in the Public Safety Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria on at least one occasion and includes

- applying Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) requirements
- communicating using non-verbal and verbal techniques
- determining hazards and assessing risks at incident site
- following organisational policies and procedures
- implementing hazard controls at incident scene
- maintaining safety at an incident scene including personal safety and contributing to the safety of other group members
- recording information, updating records and completing documentation
- using communication equipment
- using personal protective clothing and equipment
- working with others in a team

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria and includes knowledge of

- awareness of incident hazards and hazard control equipment
- commonly encountered hazards and safety precautions to prevent injury
- concept of risk
- duty of care responsibilities and obligations
- factors that may affect safety at an incident which must require monitoring
- legislation and regulations
- means of relaying warnings to other personnel
- methods of hazard control
- organisational documentation, policies and procedures
- personal protective clothing and equipment
- requirements for reporting
- roles and responsibilities at an incident scene

- safety procedures and hazard equipment to prevent injury
- survival techniques and strategies at an incident
- work environments including incidents and response situations
- Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) requirements including risk mitigation

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in industry approved simulated workplace operational situations that reflect workplace conditions.

Resources for assessment must include access to

- a range of relevant exercises, case studies and/or simulations
 - that demonstrate competency in maintaining personal safety and the safety of others
- relevant and appropriate materials, equipment, tools and personal protective clothing and equipment currently used in industry
- applicable documentation including organisational procedures, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

PUA Training Package Companion Volume Implementation Guide is found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=3eca5672-6d5a-410b-8942-810d0ba05bbf>

RIIHAN308F Load and unload plant

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 3.0.

Application

This unit describes the skills and knowledge required to load and unload plant.

This unit applies to those working in site-based roles.

Prior to performing this activity, skills and knowledge should be developed for the individual plant. This can be achieved through completing the equivalent operator unit or being assisted by someone who has this knowledge. Refer to the Implementation Guide for further details.

Licensing, legislative, regulatory and certification requirements that apply to this unit can vary between states, territories and industry sectors, and must be sourced from state jurisdictions prior to applying this unit.

Unit Sector

Coal mining

Extractive

Drilling

Metalliferous mining

Civil infrastructure

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to load and unload plant	1.1 Access, interpret and apply load handling documentation to ensure work activity is compliant 1.2 Obtain, interpret, clarify and confirm work requirements 1.3 Identify hazards and environmental issues, assess the risks and

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>implement control measures in line with workplace policies</p> <p>1.4 Select and wear personal protective equipment required for work activities</p> <p>1.5 Obtain and display signage, and erect barriers to isolate the loading and unloading site from general traffic flow in line with safe work practices</p>
2. Load the plant in line with established requirements	<p>2.1 Confirm the dimensions and capacity of the float or trailer to safely carry the plant</p> <p>2.2 Select tools and loading equipment in line with work requirements</p> <p>2.3 Identify faults, and rectify or report prior to commencement of work, within scope of own responsibility and according to workplace procedures</p> <p>2.4 Confirm preparation procedures of the plant for transportation has been completed</p> <p>2.5 Place and secure loading aids in line with workplace procedures</p> <p>2.6 Confirm the loading procedure with operator and/or guide before loading commences</p> <p>2.7 Move the plant item onto the trailer or float and halt at the designated position as per workplace procedures</p> <p>2.8 Secure plant to trailer or float in line with workplace procedures</p>
3. Unload the plant in line with established requirements	<p>3.1 Confirm the unloading procedure with operator and guide before unloading commences</p> <p>3.2 Place and secure unloading aids, including ramps, in accordance with the trailer or float specifications</p> <p>3.3 Slacken securing devices and remove according to workplace procedures</p> <p>3.4 Move the plant item off the trailer or float and halt at the designated position</p> <p>3.5 Stow loading aids including ramps, bridging materials and securing devices as per workplace procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Skill	Description
Reading	<ul style="list-style-type: none"> Identifies and interprets relevant information from workplace procedures, documentation, legislation and regulations
Numeracy	<ul style="list-style-type: none"> Identifies and comprehends relevant mathematical information in relation to equipment operating capacities

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
RIIHAN308F Load and unload plant (Release 1)	RIIHAN308E Load and unload plant (Release 1)	Minor updates to all sections to reflect operator's role.	Equivalent

Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIIHAN308F Load and unload plant

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 3.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements and performance criteria of this unit.

The candidate must demonstrate completion of loading and unloading plant that safely, effectively and efficiently follows workplace procedures to carry out work activity on at least two occasions, and include:

- displaying signage and erecting barriers to isolate work site
- calculating volume and weight of loads
- placing and securing loading and unloading aids
- moving plant onto and off trailer or float, halting at designated position
- securing plant to trailer or float
- slackening securing devices and removing in a safe sequence
- stowing loading aids

In the course of the above work, the candidate must also:

- select, check and use required loading tools and equipment
- select and wear personal protective equipment required for work activities
- apply safe work practices and identify and report potential hazards and environmental issues, and assess risks
- apply fault finding techniques
- locate and apply required documentation, policies and procedures
- meet written and verbal reporting requirements and procedures associated with loading and unloading plant
- apply operational safety
- maintain equipment records

Knowledge Evidence

The candidate must demonstrate knowledge of the following when loading and unloading plant:

Key policies, procedures and relevant standards for loading and unloading plant, including those relating to:

- National Standard for high risk work
- site and equipment safety
- techniques and processes for preparing plant for transportation
- environmental requirements
- work health safety
- chain of responsibility for loading and unloading of equipment

Key site information, including:

- understanding of required hand signals
- site isolation and traffic control responsibilities and authorities
- materials safety data sheet

Key factors affecting work activities described in performance evidence above, including

- basic motion and restraint theory related to heavy plant on floats or trailers
- basic centre of gravity and balance theory related to heavy plant on floats or trailers
- types, operation, uses and limitations of load securing equipment

Assessment Conditions

Mandatory conditions for assessment of this unit are stipulated below. The assessment must:

- include access to:
 - plant to load and unload
 - trailer or float
 - signage and barriers
 - loading aids and securing devices
 - personal protective equipment
- be conducted in a safe environment
- be assessed in context of this sector's work environment
- be assessed in compliance with relevant legislation/regulation and using policies, procedures, processes and operational manuals directly related to the industry sector for which it is being assessed; and,
- confirm consistent performance can be applied in a range of relevant workplace circumstances.

Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated work environment* provided it is realistic and sufficiently rigorous to cover all aspects of this sector's workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.

Assessor requirements

Assessors must be able to clearly demonstrate current and relevant industry knowledge and experience to satisfy the mandatory regulatory standards as set out in the Standards for Registered Training Organisations (RTOs) 2015/AQTF mandatory requirements for assessors current at the time of assessment and any relevant licensing and certification requirements. This includes:

- vocational competencies at least to the level being delivered and assessed
- current industry skills directly relevant to the training and assessment being provided
- current knowledge and skills in vocational training and learning that informs their training and assessment
- formal relevant qualifications in training and assessment
- having knowledge of and/or experience using the latest techniques and processes
- possessing a high level of RII training product knowledge
- having an understanding and knowledge of legislation and regulation relevant to the industry and to employment and workplaces
- demonstrating the performance evidence, and knowledge evidence as outlined in this Unit of Competency, and
- the minimum years of current** work experience after competency has been obtained as specified below in an industry sector relevant to the outcomes of the unit.

It is also acceptable for the appropriately qualified assessor to work with an industry expert to conduct assessment together and for the industry expert to be involved in the assessment judgement. The industry expert must hold the relevant vocational competencies and have current industry skills directly relevant to the training and assessment being provided, and must work alongside a trainer and/or assessor to conduct the assessment. This means the industry subject matter expert should hold the unit being assessed (or an equivalent unit) and must also demonstrate skills and knowledge from the minimum years of current work experience after competency has been obtained as specified below, including time spent in roles related to the unit being assessed.

Industry sector	AQF indicator level***	Required assessor or industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Infrastructure	1	1 Year
	2	2 Years
Drilling, Coal Mining, Extractive (Quarrying), Metalliferous Mining and Civil Infrastructure	3-6	3 Years
Other sectors	Where this unit is being assessed outside of the resources and infrastructure sectors, assessor and/or industry subject matter expert experience should be in-line with industry standards for the sector in which it is being assessed and, where no industry standard is specified, should comply with any relevant	

	regulation.
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*Guidance on simulated environments has been stipulated in the RII implementation guide located on VETNet.

**Assessors can demonstrate current work experience through employment within industry in a role relevant to the outcomes of the unit; or, for external assessors this can be demonstrated through exposure to industry by conducting a minimum number of site assessments as determined by the relevant industry sector, across various locations.

*** While a Unit of Competency does not have an AQF level, where a unit is being delivered outside of a qualification the first numeric character in the unit code should be considered as the AQF indicator level for assessment purposes.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

RIIMPO315E Conduct tractor operations

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 3.0.

Application

This unit describes the skills and knowledge required to operate tractors and use attachments.

This unit applies to those working in site- based roles.

Licensing, legislative, regulatory and certification requirements that apply to this unit can vary between states, territories, and industry sectors, and must be sourced from state jurisdictions prior to applying this unit.

Unit Sector

Civil infrastructure

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare for tractor operations	1.1 Access, interpret and apply tractor operations documentation 1.2 Obtain, interpret, clarify and confirm work instructions 1.3 Identify hazards and environmental issues, assess the risks and implement control measures in line with workplace policies 1.4 Select and wear personal protective equipment required for work activities 1.5 Identify, obtain and implement traffic management signage requirements according to standard operating procedures and safe work practices 1.6 Select required tractor equipment and/or attachments for work activities

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.7 Obtain and interpret emergency procedures for tractors, and be prepared for fires, accidents and emergencies</p> <p>1.8 Coordinate and communicate planned activities with others at the site prior to commencement of work activity</p>
2. Operate tractor in line with established requirements to complete work activity	<p>2.1 Carry out prestart and start-up checks in line with workplace procedures</p> <p>2.2 Identify faults or defects and rectify or report within scope of own responsibility and according to workplace procedures</p> <p>2.3 Drive and operate tractor using techniques suited to equipment capabilities, site and work conditions, and according to workplace procedures</p> <p>2.4 Monitor and manage equipment performance using indicators and alarms</p> <p>2.5 Monitor hazards and risks during operations, and ensure safety of self, other personnel, plant and equipment</p> <p>2.6 Park up, shut down, secure and carry out post operational inspection of equipment in line with workplace procedures</p>
3. Select, remove, fit and use attachments for a tractor	<p>3.1 Select attachment for the task</p> <p>3.2 Fit attachment in line with workplace procedures</p> <p>3.3 Test attachment to ensure correct fitting and operation</p> <p>3.4 Use attachment within design limits and in accordance with workplace procedures</p> <p>3.5 Remove, clean and store attachments in designated location in line with workplace procedures</p>
4. Relocate tractor	<p>4.1 Prepare tractor for relocation</p> <p>4.2 Move tractor safely between worksites, observing relevant codes and traffic management requirement</p>
5. Conduct housekeeping activities	<p>5.1 Clear work area and dispose or recycle materials according to workplace procedures</p> <p>5.2 Manage and/or report hazards to maintain a safe working environment</p> <p>5.3 Complete and file or distribute documentation in a manner that complies with workplace practices</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Skill	Description
Reading	<ul style="list-style-type: none"> Identifies and interprets information from workplace procedures, documentation, legislation and regulations
Numeracy	<ul style="list-style-type: none"> Uses equipment operating capacity schedule to confirm safe weight load limits

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
RIIMPO315E Conduct tractor operations (Release 1)	RIIMPO315D Conduct tractor operations (Release 3)	Minor updates to reflect changes to operator maintenance activities	Equivalent unit

Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIIMPO315E Conduct tractor operations

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 3.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements and performance criteria of this unit.

The candidate must demonstrate completion of tractor operations that safely, effectively and efficiently follows workplace procedures to carry out work activity on at least two occasions, and include:

- conducting prestart checks prior to commencing operations and shutdown procedures on completion of operations
- driving and operating the equipment, and adjusting techniques to site conditions
- completing a variety of tractor operations during the two occasions, selected from the following:
 - post hole digging
 - spraying of herbicides/fertilisers
 - mowing/slashing
 - lifting
 - sweeping
 - blade based functions
- fitting, using and removing at least two different attachments (i.e. minimum of one attachment per occasion), which must be certified and approved in line with workplace procedures and could include, but are not limited to, the following:
 - a front blade
 - forklift
 - slasher
 - mower
 - auger
 - drag broom
 - power broom
 - loading platform

- rotary hoe
- concrete mixer
- spraying equipment
- disc plough
- parking and securing equipment

In the course of the above the candidate must also:

- locate and apply relevant documentation, policies and procedures
- select and wear personal protective equipment required for work activities
- carry out vehicle refuelling requirements and procedures where applicable
- apply safe work practices, identifying and reporting all potential hazards, risks and environmental issues
- apply problem solving and troubleshooting techniques
- monitor and manage equipment performance using indicators and alarms
- identify common equipment faults
- apply tractor and attachment operating techniques
- clean and store attachments
- manage changes in the loads centre of gravity during transportation
- select and use the required tools and equipment
- use a range of communication techniques and equipment essential to the safe completion of work activity, including hand, audible and other signals
- meet written and verbal reporting requirements and procedures associated with equipment operations
- organise work activities to meet all task requirements

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements and performance criteria of this unit. This includes:

Key policies and procedures, legislation and established requirements for tractor operations, including those relating to:

- isolation requirements
- fires, accidents and emergencies
- work health and safety, including signs of operator fatigue and how it should be managed
- civil construction terminology
- traffic control responsibilities and authorities
- project quality requirements
- apply operational, maintenance and basic diagnostics
- personal protective equipment
- recyclable materials
- housekeeping activities

Key factors affecting work activities described in performance evidence above, including:

- equipment processes, technical capability and limitations
- drawings and sketches
- ground conditions
-

Assessment Conditions

Mandatory conditions for assessment of this unit are stipulated below. The assessment must:

- include access to:
 - a tractor
 - attachments
 - personal protective equipment
- be conducted in a safe environment; and,
- be assessed in context of this sector's work environment; and,
- be assessed in compliance with relevant legislation/regulation and using policies, procedures, processes and operational manuals directly related to the industry sector for which it is being assessed; and,
- confirm consistent performance can be applied in a range of relevant workplace circumstances

Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated work environment* provided it is realistic and sufficiently rigorous to cover all aspects of this sector's workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.

Assessor requirements

Assessors must be able to clearly demonstrate current and relevant industry knowledge and experience to satisfy the mandatory competency standards as set out in the Standards for Registered Training Organisations (RTOs) 2015/AQTF mandatory requirements for assessors current at the time of assessment and any relevant licensing and certification requirements. This includes:

- vocational competencies at least to the level being delivered and assessed
- current industry skills directly relevant to the training and assessment being provided
- current knowledge and skills in vocational training and learning that informs their training and assessment
- formal relevant qualifications in training and assessment
- having knowledge of and/or experience using the latest techniques and processes
- possessing a high level of RII training product knowledge
- having an understanding and knowledge of legislations and regulations relevant to the industry and to employment and workplaces
- demonstrating the performance evidence, and knowledge evidence as outlined in this Unit of Competency, and
- the minimum years of current** work experience after competency has been obtained as specified below in an industry sector relevant to the outcomes of the unit.

It is also acceptable for the appropriately qualified assessor to work with an industry expert to conduct assessment together and for the industry expert to be involved in the assessment judgement. The industry expert must hold the relevant vocational competencies and have current industry skills directly relevant to the training and assessment being provided and must work alongside a trainer and/or assessor to conduct the assessment. This means the industry subject matter expert should hold the unit being assessed (or an equivalent unit), and must also demonstrate skills and knowledge from the minimum years of current work experience after competency has been obtained as specified below, including time spent in roles related to the unit being assessed:

Industry sector	AQF indicator level***	Required assessor or industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Infrastructure	1	1 Year
	2	2 Years
Drilling, Coal Mining, Extractive (Quarrying), Metalliferous Mining and Civil Infrastructure	3-6	3 Years
Other sectors	Where this unit is being assessed outside of the resources and infrastructure sectors assessor and/or industry subject matter expert experience should be in-line with industry standards for the sector in which it is being assessed and where no industry standard is specified should comply with any relevant regulation.	

*Guidance on simulated environments has been stipulated in the RII implementation guide located on VETNet.

**Assessors can demonstrate current work experience through employment within industry in a role relevant to the outcomes of the unit; or, for external assessors this can be demonstrated through exposure to industry by conducting a minimum number of site assessments as determined by the relevant industry sector, across various locations.

*** While a Unit of Competency does not have an AQF level, where a unit is being delivered outside of a qualification the first numeric character in the unit code should be considered as the AQF indicator level for assessment purposes.

Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

RIIMPO317F Conduct roller operations

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 3.0.
Release 2	Editorial corrections.
Release 3	Editorial and other amendments made to clarify requirements in Application and Performance Criteria 3.3.

Application

This unit describes the skills and knowledge required to operate a roller to compact material.

This unit applies to those working in site based roles.

Licensing, legislative, regulatory and certification requirements that apply to this unit can vary between states, territories, and industry sectors, and must be sourced from state jurisdictions prior to applying this unit.

This unit alone does not provide sufficient skill to independently load and unload equipment. To perform this activity safely, personnel must either complete or be assisting someone who has completed RIIHAN308F Load and unload plant or equivalent.

Unit Sector

Civil infrastructure

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare roller operations	1.1 Access, interpret and apply roller operations documentation 1.2 Obtain, interpret, clarify and confirm work requirements 1.3 Identify hazards and environmental issues, assess the risks and implement control measures in line with workplace policies 1.4 Select and wear personal protective equipment required for work

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	activities 1.5 Identify, obtain and implement traffic management signage requirements according to standard operating procedures and safe work practices 1.6 Select required roller equipment and confirm suitability for work activities 1.7 Obtain and interpret emergency procedures for rollers, and be prepared for fires, accidents and emergencies 1.8 Coordinate and communicate planned activities with others at the site prior to commencement of work activity
2. Operate roller in line with established requirements to complete work activity	2.1 Carry out prestart and start-up checks in line with workplace procedures 2.2 Identify faults or defects and rectify or report within scope of own responsibility and according to workplace procedures 2.3 Drive and operate roller using techniques suited to equipment capabilities, site and work conditions, and according workplace procedures 2.4 Perform work activity within the operating capacity of the equipment 2.5 Adjust accessories in line with workplace procedures 2.6 Engage and disengage the compacting device 2.7 Identify, remove or manage contaminants in a safe manner incorporating safe work practices 2.8 Monitor hazards and risks during operations, and ensure safety of self, other personnel, plant and equipment 2.9 Monitor and manage equipment performance using indicators and alarms 2.10 Park up, shut down, secure and carry out post operational inspection of equipment in line with workplace procedures
3. Prepare to relocate the roller	3.1 Prepare the roller for relocation 3.2 Move the machine safely within and/or between work areas, observing relevant codes and traffic management requirements 3.3 Assist loading and unloading machine from float/trailer as required by workplace procedures

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
4. Conduct housekeeping activities	4.1 Clear work area and dispose or recycle materials according to workplace procedures 4.2 Manage and/or report hazards to maintain a safe working environment 4.3 Complete and file or distribute documentation in a manner that complies with workplace practices

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Skill	Description
Reading	<ul style="list-style-type: none"> Identifies and interprets information from workplace procedures, documentation, legislation and regulations
Numeracy	<ul style="list-style-type: none"> Uses equipment operating capacity schedule to confirm safe weight load limits

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
RIIMPO317F Conduct roller operations (Release 2)	RIIMPO317E Conduct roller operations (Release 1)	Minor updates to reflect changes to operator maintenance and relocation activities	Equivalent unit

Links

Companion Volume Implementation Guides are available from VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIIMPO317F Conduct roller operations

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 3.0.
Release 2	Editorial corrections.
Release 3	Editorial and other amendments made to clarify requirements in Application and Performance Criteria 3.3.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements and performance criteria of this unit.

The candidate must demonstrate completion of roller operations that safely, effectively and efficiently follows workplace procedures to carry out work activity on at least two occasions, and include:

- conducting prestart checks prior to commencing operations and shutdown procedures on completion of operations
- driving and operating the equipment, and adjusting techniques to suit site conditions
- completion of operations using at least two different material types and include the mandatory tasks of:
 - compacting materials to pattern and density
 - sealing and finishing
 - adjusting at least two of the following:
 - interchangeable drums
 - spray bars
 - scraper bars
 - wheel/drum brooms
 - drag brooms
 - blades
- assisting with loading and unloading unit plant type from float/trailer
- parking and securing of equipment.

In the course of the above the candidate must also:

- locate and apply relevant documentation, policies and procedures

- select and wear personal protective equipment required for work activities
- carry out vehicle refuelling requirements and procedures where applicable
- apply safe work practices, identifying and reporting all potential hazards, risks and environmental issues
- apply problem solving and troubleshooting techniques when operating equipment
- monitor and manage equipment performance using indicators and alarms
- identify common equipment faults
- apply operating techniques for levelling and compacting
- select and use the required tools and equipment
- use a range of communication techniques and equipment essential to the safe completion of work activity, including hand, audible and other signals
- meet written and verbal reporting requirements and procedures associated with equipment operations
- organise work activities to meet all task requirements.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements and performance criteria of this unit. This includes:

Key policies and procedures, legislation and established requirements for roller operations, including those relating to:

- isolation requirements
- fires, accidents and emergencies
- work health and safety, including signs of operator fatigue and how it should be managed
- site isolation and traffic control responsibilities and authorities
- operational, maintenance and basic diagnostics
- project quality requirements
- chain of responsibility for loading and unloading of equipment
- personal protective equipment
- recyclable materials
- housekeeping activities
- machine guidance systems

Key factors affecting work activities described in performance evidence above, including:

- equipment processes, technical capability and limitations
- drawings and sketches
- ground conditions
- materials characteristics, including density and viscosity

Key features associated with civil construction works, including:

- civil construction terminology
- basic principles of material technology and material compaction for civil works
- basic earthworks calculations

- civil construction activity sequences of road construction, earthworks and drainage.

Assessment Conditions

Mandatory conditions for assessment of this unit are stipulated below. The assessment must:

- include access to:
 - roller
 - personal protective equipment
- be conducted in a safe environment; and,
- be assessed in context of this sector's work environment; and,
- be assessed in compliance with relevant legislation/regulation and using policies, procedures, processes and operational manuals directly related to the industry sector for which it is being assessed; and,
- confirm consistent performance can be applied in a range of relevant workplace circumstances

Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated work environment* provided it is realistic and sufficiently rigorous to cover all aspects of this sector's workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.

Assessor Requirements

Assessors must be able to clearly demonstrate current and relevant industry knowledge and experience to satisfy the mandatory competency standards as set out in the Standards for Registered Training Organisations (RTOs) 2015/AQTF mandatory requirements for assessors current at the time of assessment and any relevant licensing and certification requirements.

This includes:

- vocational competencies at least to the level being delivered and assessed
- current industry skills directly relevant to the training and assessment being provided
- current knowledge and skills in vocational training and learning that informs their training and assessment
- formal relevant qualifications in training and assessment
- having knowledge of and/or experience using the latest techniques and processes
- possessing a high level of RII training product knowledge
- having an understanding and knowledge of legislations and regulations relevant to the industry and to employment and workplaces
- demonstrating the performance evidence, and knowledge evidence as outlined in this Unit of Competency, and
- the minimum years of current** work experience after competency has been obtained as specified below in an industry sector relevant to the outcomes of the unit.

It is also acceptable for the appropriately qualified assessor to work with an industry expert to conduct assessment together and for the industry expert to be involved in the assessment judgement. The industry expert must hold the relevant vocational competencies and have current industry skills directly relevant to the training and assessment being provided and must work alongside a trainer and/or assessor to conduct the assessment. This means the industry subject matter expert should hold the unit being assessed (or an equivalent unit), and must also demonstrate skills and knowledge from the minimum years of current work experience after competency has been obtained as specified below, including time spent in roles related to the unit being assessed:

Industry sector	AQF indicator level***	Required assessor or industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Infrastructure	1	1 Year
	2	2 Years
Drilling, Coal Mining, Extractive (Quarrying), Metalliferous Mining and Civil Infrastructure	3-6	3 Years
Other sectors	Where this unit is being assessed outside of the resources and infrastructure sectors, assessor and/or industry subject matter expert experience should be in-line with industry standards for the sector in which it is being assessed and, where no industry standard is specified, should comply with any relevant regulation.	

*Guidance on simulated environments has been stipulated in the RII implementation guide located on VETNet.

**Assessors can demonstrate current work experience through employment within industry in a role relevant to the outcomes of the unit; or, for external assessors this can be demonstrated through exposure to industry by conducting a minimum number of site assessments as determined by the relevant industry sector, across various locations.

*** While a Unit of Competency does not have an AQF level, where a unit is being delivered outside of a qualification the first numeric character in the unit code should be considered as the AQF indicator level for assessment purposes.

Links

Companion Volume Implementation Guides are available from VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

RIIMPO318F Conduct civil construction skid steer loader operations

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 3.0.
Release 2	Editorial and other amendments made to clarify requirements in Application and Performance Criteria 5.3.

Application

This unit describes the skills and knowledge required operate a skid steer loader to load, haul and distribute materials.

This unit applies to those working in site based roles.

Licensing, legislative, regulatory and certification requirements that apply to this unit can vary between states, territories, and industry sectors, and must be sourced from state jurisdictions prior to applying this unit.

This unit alone does not provide sufficient skill to independently load and unload equipment. To perform this activity safely, personnel must either complete or be assisting someone who has completed RIIHAN308F Load and unload plant or equivalent.

Unit Sector

Civil infrastructure

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare for skid steer loader operations	1.1 Access, interpret and apply skid steer loader operations documentation 1.2 Obtain, interpret, clarify and confirm work requirements 1.3 Identify hazards and environmental issues, assess the risks and

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>implement control measures in line with workplace policies</p> <p>1.4 Select and wear personal protective equipment required for work activities</p> <p>1.5 Obtain, identify and implement traffic signage requirements according to standard operating procedures and safe work practices</p> <p>1.6 Select required skid steer equipment and confirm suitability for work activities</p> <p>1.7 Obtain and interpret emergency procedures for skid steers, and be prepared for fires, accidents and emergencies</p> <p>1.8 Coordinate and communicate planned activities with others at the site prior to commencement of work activity</p>
2. Operate skid steer loader in line with established requirements	<p>2.1 Carry out prestart and start-up checks in line with workplace procedures</p> <p>2.2 Identify faults or defects and rectify or report within scope of own responsibility and according to workplace procedures</p> <p>2.3 Drive and operate loader using techniques suited to equipment capabilities and site work conditions, and according to workplace procedures</p> <p>2.4 Monitor hazards and risks during operations, and ensure safety of self, other personnel, plant and equipment</p> <p>2.5 Monitor and manage equipment performance using indicators and alarms</p>
3. Load, carry and place materials to complete work activity	<p>3.1 Establish weight of load and ensure it is within safe operational limits of the machine</p> <p>3.2 Position machinery to ensure stable and effective shift of materials according to work requirements</p> <p>3.3 Shift materials safely and effectively, using hand audible and communication signals, in line with workplace procedures</p> <p>3.4 Park up, shut down, secure and carry out post operational inspection of equipment in line with workplace procedures</p>
4. Select, remove, fit and use attachments for a skid steer loader	<p>4.1 Select appropriate attachment and required equipment for the task, and in accordance with safe working load requirements</p> <p>4.2 Fit attachment in line with workplace procedures</p> <p>4.3 Test attachment and ensure correct fitting and operation</p>

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>4.4 Use attachment within design limits and in accordance with workplace procedures</p> <p>4.5 Remove, clean and store attachments in designated location in line with workplace procedures</p>
5. Prepare to relocate the skid steer loader	<p>5.1 Prepare for relocation of skid steer loader</p> <p>5.2 Move skid steer loader safely within and/or between work areas, observing relevant codes and traffic management requirements</p> <p>5.3 Assist loading and unloading machine from float/trailer as required by safe work practices</p>
6. Conduct housekeeping activities	<p>6.1 Clear work area and dispose of or recycle materials according to workplace procedures</p> <p>6.2 Manage and/or report hazards to maintain a safe working environment</p> <p>6.3 Complete and file or distribute documentation in a manner that complies with workplace practices</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Skill	Description
Reading	<ul style="list-style-type: none"> Identifies and interprets information from workplace procedures, documentation, legislation and regulations
Numeracy	<ul style="list-style-type: none"> Uses equipment operating capacity schedule to confirm safe weight load limits

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
RIIMPO318F Conduct civil construction skid steer loader operations (Release 1)	RIIMPO318E Conduct civil construction skid steer loader operations (Release 1)	Minor updates to reflect changes to operator maintenance and relocation activities	Equivalent unit

Links

Companion Volume Implementation Guides are available from VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIIMPO318F Conduct civil construction skid steer loader operations

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 3.0.
Release 2	Editorial and other amendments made to clarify requirements in Application and Performance Criteria 5.3.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements and performance criteria of this unit.

The candidate must demonstrate completion of skid steer loader operations that safely, effectively and efficiently follows workplace procedures to carry out work activity on at least two occasions, and include:

- conducting prestart checks prior to commencing operations and shutdown procedures on completion of operations
- driving and operating the equipment to site conditions
- completion of operations to specification using at least two different material types (i.e. one different material per occasion) including:
 - stripping/spreading materials
 - backfilling
 - excavations
 - mixing materials
- selecting, fitting, testing, using and removing attachments on at least two occasions (i.e. one attachment per occasion), the attachment must be certified and approved in line with workplace procedures and could include, but not limited to, the following:
 - multipurpose bucket
 - forks
 - dozer blade
 - backhoe
 - auger
 - chain digger
 - power broom
 - profiler

- tiller/mixer
- rotary hoe
- hammer
- asphalt cutter/saw
- concrete cutter/saw
- rake
- assisting with loading and unloading skid steer loader from float/trailer
- safely parking and securing equipment

In the course of the above the candidate must also:

- locate and apply relevant documentation, policies and procedures
- select and wear personal protective equipment required for work activities
- apply safe work practices, identifying and reporting all potential hazards, risks and environmental issues
- apply problem solving and troubleshooting techniques when operating equipment
- monitor and manage equipment performance using indicators and alarms
- identify common equipment faults
- apply levelling techniques
- establish weight of load
- manage changes in the loads centre of gravity during transportation
- select and use the required tools and equipment
- apply methods of changing machine attachments
- use a range of communication techniques and equipment essential to the safe completion of work activity, including hand, audible and other signals
- meet written and verbal reporting requirements and procedures associated with equipment operations
- organise work activities to meet all task requirements
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Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements and performance criteria of this unit. This includes:

Key policies and procedures, legislation and established requirements for skid steer loader operations, including those relating to:

- isolation requirements for skid steer loader
- fires, accidents and emergencies
- work health and safety, including signs of operator fatigue and how it should be managed
- traffic control responsibilities and authorities
- project quality requirements
- chain of responsibility for loading and unloading of equipment
- operational, maintenance and basic diagnostics
- personal protective equipment

- recyclable materials
- housekeeping activities

Key factors affecting work activities described in performance evidence above, including:

- equipment processes, technical capability and limitations
- drawings and sketches
- ground conditions
- materials characteristics, including density and viscosity

Key features associated with civil construction works, including:

- civil construction terminology
- basic principles of material technology and material compaction for civil works
- basic earthworks calculations
- civil construction activity sequences of road construction, earthworks and drainage

Assessment Conditions

Mandatory conditions for assessment of this unit are stipulated below. The assessment must:

- include access to:
 - a skid steer loader
 - materials to be shifted
 - personal protective equipment
- be conducted in a safe environment; and,
- be assessed in context of this sector's work environment; and,
- be assessed in compliance with relevant legislation/regulation and using policies, procedures, processes and operational manuals directly related to the industry sector for which it is being assessed; and,
- confirm consistent performance can be applied in a range of relevant workplace circumstances

Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated work environment* provided it is realistic and sufficiently rigorous to cover all aspects of this sector's workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.

Assessor requirements

Assessors must be able to clearly demonstrate current and relevant industry knowledge and experience to satisfy the mandatory competency standards as set out in the Standards for Registered Training Organisations (RTOs) 2015/AQTF mandatory requirements for assessors current at the time of assessment and any relevant licensing and certification requirements. This includes:

- vocational competencies at least to the level being delivered and assessed
- current industry skills directly relevant to the training and assessment being provided
- current knowledge and skills in vocational training and learning that informs their training and assessment

- formal relevant qualifications in training and assessment
- having knowledge of and/or experience using the latest techniques and processes
- possessing a high level of RII training product knowledge
- having an understanding and knowledge of legislations and regulations relevant to the industry and to employment and workplaces
- demonstrating the performance evidence, and knowledge evidence as outlined in this Unit of Competency, and
- the minimum years of current** work experience after competency has been obtained as specified below in an industry sector relevant to the outcomes of the unit.

It is also acceptable for the appropriately qualified assessor to work with an industry expert to conduct assessment together and for the industry expert to be involved in the assessment judgement. The industry expert must hold the relevant vocational competencies and have current industry skills directly relevant to the training and assessment being provided and must work alongside a trainer and/or assessor to conduct the assessment. This means the industry subject matter expert should hold the unit being assessed (or an equivalent unit), and must also demonstrate skills and knowledge from the minimum years of current work experience after competency has been obtained as specified below, including time spent in roles related to the unit being assessed:

Industry sector	AQF indicator level***	Required assessor or industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Infrastructure	1	1 Year
	2	2 Years
Drilling, Coal Mining, Extractive (Quarrying), Metalliferous Mining and Civil Infrastructure	3-6	3 Years
Other sectors	Where this unit is being assessed outside of the resources and infrastructure sectors, assessor and/or industry subject matter expert experience should be in-line with industry standards for the sector in which it is being assessed and, where no industry standard is specified, should comply with any relevant regulation.	

*Guidance on simulated environments has been stipulated in the RII implementation guide located on VETNet.

**Assessors can demonstrate current work experience through employment within industry in a role relevant to the outcomes of the unit; or, for external assessors this can be demonstrated through exposure to industry by conducting a minimum number of site assessments as determined by the relevant industry sector, across various locations.

*** While a Unit of Competency does not have an AQF level, where a unit is being delivered outside of a qualification the first numeric character in the unit code should be considered as the AQF indicator level for assessment purposes.

Links

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RIIMPO319E Conduct backhoe/loader operations

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 3.0.
Release 2	This version was released with RII Resources and Infrastructure Industry Training Package Version 7.1. Editorial amendments to Performance Evidence to clarify task requirements.

Application

This unit describes the skills and knowledge required to operate a backhoe/loader to load, distribute and place materials.

This unit applies to those working in site based roles.

Licensing, legislative, regulatory and certification requirements that apply to this unit can vary between states, territories, and industry sectors, and must be sourced from state jurisdictions prior to applying this unit.

Unit Sector

Civil infrastructure

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare for backhoe/loader operations	1.1 Access, interpret and apply backhoe/loader operations documentation 1.2 Obtain, interpret, clarify and confirm work instructions 1.3 Identify hazards and environmental issues, assess the risks and implement control measures in line with workplace policies 1.4 Select and wear personal protective equipment required for work

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	activities 1.5 Identify, obtain and implement signage traffic management requirements according to standard operating procedures and safe work practices 1.6 Select required backhoe/loader equipment and confirm suitability for work activities 1.7 Obtain and interpret emergency procedures for backhoe/loaders, and be prepared for fires, accidents and emergencies 1.8 Coordinate and communicate planned activities with others at the site prior to commencement of work activity
2. Operate backhoe/loader in line with established requirements	2.1 Carry out prestart and start-up checks in line with workplace procedures 2.2 Identify faults or defects and rectify or report within scope of own responsibility and according to workplace procedures 2.3 Drive and operate machine using techniques suited to equipment capabilities, site and work conditions, and according to workplace procedures 2.4 Monitor hazards and risks during operations, and ensure safety of self, other personnel, plant and equipment 2.5 Monitor and manage equipment performance using indicators and alarms
3. Load, carry and place materials to complete work activity	3.1 Establish weight of load and ensure it is within safe operational limits of the machine 3.2 Use lifting gear within safe working load requirements and in line with workplace procedures 3.3 Position and locate machinery to ensure stable and effective shift materials according to work requirements 3.4 Shift materials safely and effectively, using hand, audible and communication signal, in line with workplace procedures 3.5 Park up, shut down, secure and carry out post operational inspection of equipment in line with workplace procedures
4. Select, remove, fit and attachments for a backhoe/loader	4.1 Select attachment for the task and fit attachment in line with workplace procedures 4.2 Test attachment and ensure correct fitting and operation

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	4.3 Use attachment within design limits and in accordance with workplace procedures 4.4 Remove, clean and store attachments in designated location in line with workplace procedures
5. Relocate the backhoe/ loader	5.1 Prepare backhoe/loader for relocation 5.2 Move backhoe/loader safely between worksites, observing relevant codes and traffic management requirements
6. Conduct housekeeping activities	6.1 Clear work area and dispose of or recycle materials according to workplace procedures 6.2 Manage and/or report hazards to maintain a safe working environment 6.3 Complete and file or distribute documentation in a manner that complies with workplace practices

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Skill	Description
Reading	<ul style="list-style-type: none"> Identifies and interprets information from workplace procedures, documentation, legislation and regulations
Numeracy	<ul style="list-style-type: none"> Uses equipment operating capacity schedule to confirm safe weight load limits

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
RIIMPO319E Conduct backhoe/loader operations (Release	RIIMPO319D Conduct backhoe/loader operations (Release 3)	Minor updates to reflect changes to operator maintenance activities and	Equivalent unit

1)		assessment for attachments	
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Links

Companion Volume Implementation Guides are available from VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIIMPO319E Conduct backhoe/loader operations

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 3.0.
Release 2	This version was released with RII Resources and Infrastructure Industry Training Package Version 7.1. Editorial amendments to Performance Evidence to clarify task requirements.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements and performance criteria of this unit.

The candidate must demonstrate completion of loader/backhoe operations that safely, effectively and efficiently follows workplace procedures to carry out work activity on at least two occasions, and include:

- conducting prestart checks prior to commencing operations and shutdown procedures on completion of operations
- driving and operating the equipment, and adjusting techniques to suit site conditions
- completion of operations to specification using at least two different material types (i.e. one different material type per occasion) including:
 - mixing materials
 - stripping/spreading materials
 - trench excavation
 - backfilling
 - lifting and carry materials
 - loading dump trucks, wagons, hoppers or chutes
 - cutting/boxing
- selecting, fitting, testing, using and removing at least two attachments (i.e. one attachment per occasion), which must be certified and approved in line with workplace procedures and could include, but are not limited to, the following:
 - extending devices
 - tilt bucket
 - buckets

- compaction wheel
- ripper
- plate compactor
- rock breaker
- auger
- broom
- mower/slasher
- forklift
- 4 in 1 bucket and free/rock grab
- parking and securing of equipment

In the course of the above work the candidate must also:

- locate and apply relevant documentation, policies and procedures
- select and wear personal protective equipment required for work activities
- carry out vehicle refuelling requirements and procedures where applicable
- apply safe work practices, identifying and reporting all potential hazards, risks and environmental issues
- apply problem solving and troubleshooting techniques when operating equipment
- monitor and manage equipment performance using indicators and alarms
- identify common equipment faults
- apply levelling techniques
- establish weight of load
- manage changes in the loads centre of gravity during transportation
- select and use the required tools and equipment
- work safely around other machines and personnel
- apply methods of changing machine attachments
- use a range of communication techniques and equipment essential to the safe completion of work activity, including hand, audible and other signals
- meet written and verbal reporting requirements and procedures associated with equipment operations
- organise work activities to meet all task requirements
-

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements and performance criteria of this unit. This includes:

Key policies and procedures, legislation and established requirements for backhoe/loader operations, including those relating to:

- isolation requirements
- fires, accidents and emergencies
- work health and safety, including signs of operator fatigue and how it should be managed
- site isolation and traffic control responsibilities and authorities

- project quality requirements
- operational, maintenance and basic diagnostics
- personal protective equipment
- recyclable materials
- housekeeping activities

Key factors affecting work activities described in performance evidence above, including:

- equipment processes, technical capability and limitations
- drawings and sketches
- ground conditions
- materials characteristics, including density and viscosity

Key features associated with civil construction works, including:

- civil construction terminology
- basic principles of material technology and material compaction for civil works
- basic earthworks calculations
- civil construction activity sequences of road construction, earthworks and drainage

Assessment Conditions

Mandatory conditions for assessment of this unit are stipulated below. The assessment must:

- include access to:
 - backhoe/loader
 - personal protective equipment
- be conducted in a safe environment; and,
- be assessed in context of this sector's work environment; and,
- be assessed in compliance with relevant legislation/regulation and using policies, procedures, processes and operational manuals directly related to the industry sector for which it is being assessed; and,
- confirm consistent performance can be applied in a range of relevant workplace circumstances

Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated work environment* provided it is realistic and sufficiently rigorous to cover all aspects of this sector's workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.

Assessor requirements

Assessors must be able to clearly demonstrate current and relevant industry knowledge and experience to satisfy the mandatory competency standards as set out in the Standards for Registered Training Organisations (RTOs) 2015/AQTF mandatory requirements for assessors current at the time of assessment and any relevant licensing and certification requirements.

This includes:

- vocational competencies at least to the level being delivered and assessed
- current industry skills directly relevant to the training and assessment being provided

- current knowledge and skills in vocational training and learning that informs their training and assessment
- formal relevant qualifications in training and assessment
- having knowledge of and/or experience using the latest techniques and processes
- possessing a high level of RII training product knowledge
- having an understanding and knowledge of legislations and regulations relevant to the industry and to employment and workplaces
- demonstrating the performance evidence, and knowledge evidence as outlined in this Unit of Competency, and
- the minimum years of current** work experience after competency has been obtained as specified below in an industry sector relevant to the outcomes of the unit.

It is also acceptable for the appropriately qualified assessor to work with an industry expert to conduct assessment together and for the industry expert to be involved in the assessment judgement. The industry expert must hold the relevant vocational competencies and have current industry skills directly relevant to the training and assessment being provided and must work alongside a trainer and/or assessor to conduct the assessment. This means the industry subject matter expert should hold the unit being assessed (or an equivalent unit), and must also demonstrate skills and knowledge from the minimum years of current work experience after competency has been obtained as specified below, including time spent in roles related to the unit being assessed:

Industry sector	AQF indicator level***	Required assessor or industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Infrastructure	1	1 Year
	2	2 Years
Drilling, Coal Mining, Extractive (Quarrying), Metalliferous Mining and Civil Infrastructure	3-6	3 Years
Other sectors	Where this unit is being assessed outside of the resources and infrastructure sectors assessor and/or industry subject matter expert experience should be in-line with industry standards for the sector in which it is being assessed and where no industry standard is specified should comply with any relevant regulation.	

*Guidance on simulated environments has been stipulated in the RII implementation guide located on VETNet.

**Assessors can demonstrate current work experience through employment within industry in a role relevant to the outcomes of the unit; or, for external assessors this can be demonstrated through exposure to industry by conducting a minimum number of site assessments as determined by the relevant industry sector, across various locations.

*** While a Unit of Competency does not have an AQF level, where a unit is being delivered outside of a qualification the first numeric character in the unit code should be considered as the AQF indicator level for assessment purposes.

Links

Companion Volume Implementation Guides are available from VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

RIIMPO320F Conduct civil construction excavator operations

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 3.0.
Release 2	Editorial corrections.
Release 3	Editorial corrections to performance evidence.
Release 4	Editorial and other amendments made to clarify requirements in Application and Performance Criteria 5.3.

Application

This unit describes the skills and knowledge required to operate excavator operations to lift carry and place materials.

This unit applies to those working in site based roles.

Licensing, legislative, regulatory and certification requirements that apply to this unit can vary between states, territories, and industry sectors, and must be sourced from state jurisdictions prior to applying this unit.

This unit alone does not provide sufficient skill to independently load and unload equipment. To perform this activity safely, personnel must either complete or be assisting someone who has completed RIIHAN308F Load and unload plant or equivalent.

Unit Sector

Civil infrastructure

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare for excavator operations	1.1 Access, interpret and apply excavator operations documentation 1.2 Obtain, interpret, clarify and confirm work requirements

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.3 Identify hazards and environmental issues, assess the risks and implement control measures in line with workplace policies</p> <p>1.4 Select and wear personal protective equipment required for work activities</p> <p>1.5 Obtain, identify and implement traffic management signage requirements according to standard operating procedures and safe work practices</p> <p>1.6 Select required excavator equipment and/or attachments and confirm suitability for work activities</p> <p>1.7 Obtain and interpret emergency procedures for excavators, and be prepared for fires, accidents and emergencies</p> <p>1.8 Coordinate and communicate planned activities with others at the site prior to commencement of work activity</p>
2. Operate excavator in line with established requirements	<p>2.1 Carry out prestart and start-up checks in line with workplace procedures</p> <p>2.2 Identify faults or defects and rectify or report within scope of own responsibility and according to workplace procedures</p> <p>2.3 Drive and operate excavator using techniques suited to equipment capabilities, site and work conditions, and according to workplace procedures</p> <p>2.4 Monitor hazards and risks during operations, and ensure safety of self, other personnel, plant and equipment</p> <p>2.5 Monitor and manage equipment performance using indicators and alarms in line with manufacturers' specifications</p>
3. Lift, carry and place materials to complete work activity	<p>3.1 Establish weight of load and ensure it is within safe operational limits of the machine</p> <p>3.2 Use lifting gear within safe working load requirements and in line with workplace requirements</p> <p>3.3 Position machinery and ensure stable and effective shift of materials according to work requirements</p> <p>3.4 Shift load safely and effectively, using hand, audible and communication signal, in line with workplace procedures</p> <p>3.5 Park up, shut down, secure and carry out post operational inspection of equipment in line with workplace procedures</p>

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
4. Select, remove, fit and use attachments for a excavator	4.1 Select attachment for the task 4.2 Fit attachment in line with workplace procedures 4.3 Test attachment and ensure correct fitting and operation 4.4 Use attachment within design limits and in accordance with workplace procedures 4.5 Remove, clean and store attachments in designated location in line with workplace procedures
5. Prepare to relocate the excavator	5.1 Prepare excavator for relocation 5.2 Move excavator safely within and/or between work areas, observing relevant codes and traffic management requirements 5.3 Assist loading and unloading machine from float/trailer as required by workplace procedures
6. Conduct housekeeping activities	6.1 Clear work area and dispose of or recycle materials according to workplace procedures 6.2 Manage and/or report hazards to maintain a safe working environment 6.3 Complete and file or distribute documentation in a manner that complies with workplace practices

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Skill	Description
Reading	<ul style="list-style-type: none"> Identifies and interprets information from workplace procedures, documentation, legislation and regulations
Numeracy	<ul style="list-style-type: none"> Uses equipment operating capacity schedule to confirm safe weight load limits

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
RIIMPO320F Conduct civil construction excavator operations (Release 2)	RIIMPO320F Conduct civil construction excavator operations (Release 1)	Editorial corrections.	Equivalent unit

Links

Companion Volume Implementation Guides are available from VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIIMPO320F Conduct civil construction excavator operations

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 3.0.
Release 2	Editorial corrections.
Release 3	Editorial corrections to performance evidence.
Release 4	Editorial and other amendments made to clarify requirements in Application and Performance Criteria 5.3.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements and performance criteria of this unit.

The candidate must demonstrate completion of excavator operations that safely, effectively and efficiently follows workplace procedures to carry out work activity on at least two occasions, and include:

- conducting prestart checks prior to commencing operations and shutdown procedures on completion of operations
- driving and operating the equipment, and adjusting techniques to site conditions
- completing operations to specification using at least two different material types and activities including:
 - loading, cutting/boxing
 - stripping/spreading
 - lifting and carry materials
 - bulk excavation
 - mixing/backfilling
 - trench excavation
 - stockpiling
 - battering
 - benching
 - site clean up

- selecting, fitting, testing, using and removing at least three attachments, the attachment must be certified and approved in line with workplace procedures and could include, but not limited to, the following:
 - tilt bucket
 - buckets
 - lifting device
 - vibrating compaction wheel
 - ripper/tyne
 - compaction plate
 - compaction wheel
 - rock breaker
 - auger
 - ground engaging tools
- assisting with loading and unloading plant type from float/trailer
- parking and securing equipment

In the course of the above work the candidate must also:

- locate and apply relevant documentation, policies and procedures
- select and wear personal protective equipment required for work activities
- carry out vehicle refuelling requirements and procedures where applicable
- apply safe work practices, identifying and reporting all potential hazards, risks and environmental issues
- apply problem solving and troubleshooting techniques when operating equipment
- monitor and manage equipment performance using indicators and alarms
- identify common equipment faults
- apply levelling techniques
- select and use the required tools and equipment
- apply methods of changing machine attachments
- establish weight of load
- manage changes in the loads centre of gravity during transportation
- use a range of communication techniques and equipment essential to the safe completion of work activity, including hand, audible and other signals
- meet written and verbal reporting requirements and procedures associated with equipment operations
- organise work activities to meet all task requirements.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements and performance criteria of this unit. This includes:

Key policies and procedures, legislation and established requirements for excavator operations, including those relating to:

- isolation requirements

- fires, accidents and emergencies
- work health and safety, including signs of operator fatigue and how it should be managed
- site isolation and traffic control responsibilities and authorities
- project quality requirements
- chain of responsibility for loading and unloading of equipment
- operational, maintenance and basic diagnostics
- personal protective equipment
- recyclable materials
- housekeeping activities

Key factors affecting work activities described in performance evidence above, including:

- equipment processes, technical capability and limitations
- drawings and sketches
- ground conditions
- materials characteristics, including density and viscosity

Key features associated with civil construction works, including:

- civil construction terminology
- basic principles of material technology and material compaction for civil works
- basic earthworks calculations
- civil construction activity sequences of road construction, earthworks and drainage.

Assessment Conditions

Mandatory conditions for assessment of this unit are stipulated below. The assessment must:

- include access to:
 - excavator
 - attachments
 - personal protective equipment
- be conducted in a safe environment; and,
- be assessed in context of this sector's work environment; and,
- be assessed in compliance with relevant legislation/regulation and using policies, procedures, processes and operational manuals directly related to the industry sector for which it is being assessed; and,
- confirm consistent performance can be applied in a range of relevant workplace circumstances

Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated work environment* provided it is realistic and sufficiently rigorous to cover all aspects of this sector's workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.

Assessor Requirements

Assessors must be able to clearly demonstrate current and relevant industry knowledge and experience to satisfy the mandatory competency standards as set out in the Standards for Registered Training Organisations (RTOs) 2015/AQTF mandatory requirements for assessors current at the time of assessment and any relevant licensing and certification requirements.

This includes:

- vocational competencies at least to the level being delivered and assessed
- current industry skills directly relevant to the training and assessment being provided
- current knowledge and skills in vocational training and learning that informs their training and assessment
- formal relevant qualifications in training and assessment
- having knowledge of and/or experience using the latest techniques and processes
- possessing a high level of RII training product knowledge
- having an understanding and knowledge of legislations and regulations relevant to the industry and to employment and workplaces
- demonstrating the performance evidence, and knowledge evidence as outlined in this Unit of Competency, and
- the minimum years of current** work experience after competency has been obtained as specified below in an industry sector relevant to the outcomes of the unit.

It is also acceptable for the appropriately qualified assessor to work with an industry expert to conduct assessment together and for the industry expert to be involved in the assessment judgement. The industry expert must hold the relevant vocational competencies and have current industry skills directly relevant to the training and assessment being provided and must work alongside a trainer and/or assessor to conduct the assessment. This means the industry subject matter expert should hold the unit being assessed (or an equivalent unit), and must also demonstrate skills and knowledge from the minimum years of current work experience after competency has been obtained as specified below, including time spent in roles related to the unit being assessed:

Industry sector	AQF indicator level***	Required assessor or industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Infrastructure	1	1 Year
	2	2 Years
Drilling, Coal Mining, Extractive (Quarrying), Metalliferous Mining and Civil Infrastructure	3-6	3 Years
Other sectors	Where this unit is being assessed outside of the resources and infrastructure sectors, assessor and/or industry subject matter expert experience should be in-line with industry standards for the sector in which it is being	

	assessed and, where no industry standard is specified, should comply with any relevant regulation.
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*Guidance on simulated environments has been stipulated in the RII implementation guide located on VETNet.

**Assessors can demonstrate current work experience through employment within industry in a role relevant to the outcomes of the unit; or, for external assessors this can be demonstrated through exposure to industry by conducting a minimum number of site assessments as determined by the relevant industry sector, across various locations.

*** While a Unit of Competency does not have an AQF level, where a unit is being delivered outside of a qualification the first numeric character in the unit code should be considered as the AQF indicator level for assessment purposes.

Links

Companion Volume Implementation Guides are available from VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

RIIMPO321F Conduct civil construction wheeled front end loader operations

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 3.0.
Release 2	Editorial corrections.
Release 3	Editorial and other amendments made to clarify requirements in Application and Performance Criteria 4.3.

Application

This unit describes the skills and knowledge required to conduct wheeled front end loader operations.

This unit applies to those working in site- based roles.

Where equipment being assessed requires the fitting and removal of attachments to be demonstrated an integrated tool carrier unit should be used.

Licensing, legislative, regulatory and certification requirements that apply to this unit can vary between states, territories, and industry sectors, and must be sourced from state jurisdictions prior to applying this unit.

This unit alone does not provide sufficient skill to independently load and unload equipment. To perform this activity safely, personnel must either complete or be assisting someone who has completed RIIHAN308F Load and unload plant or equivalent.

Unit Sector

Civil infrastructure

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare for	1.1 Access, interpret and apply wheeled front end loader operations

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
wheeled front end loader operations	<p>documentation</p> <p>1.2 Obtain, interpret, clarify and confirm work instructions</p> <p>1.3 Identify hazards and environmental issues, assess the risks and implement control measures in line with workplace policies</p> <p>1.4 Select and wear personal protective equipment required for work activities</p> <p>1.5 Obtain, identify and implement traffic management signage requirements according to standard operating procedures and safe work practices</p> <p>1.6 Select required wheeled front end loader equipment and confirm suitability for work activities</p> <p>1.7 Obtain and interpret emergency procedures for wheeled front end loaders, and be prepared for fires, accidents and emergencies</p> <p>1.8 Coordinate and communicate planned activities with others at the site prior to commencement of work activity</p>
2. Operate front end loader in line with established requirements	<p>2.1 Carry out prestart and start-up checks in line with workplace procedures</p> <p>2.2 Identify faults or defects and rectify or report within scope of own responsibility and according to workplace procedures</p> <p>2.3 Drive and operate front end loader, and modify the operating technique to meet changing work conditions</p> <p>2.4 Monitor hazards and risks during operations, and ensure safety of self, other personnel, plant and equipment</p> <p>2.5 Perform work activity within the operating capacity of the equipment</p> <p>2.6 Monitor and manage equipment performance using indicators and alarms in accordance with manufacturers' specifications</p>
3. Attach, secure, lift, carry and place materials to complete work activity	<p>3.1 Establish weight of load and ensure it is within safe operational limits of the machine</p> <p>3.2 Use lifting gear within safe working load requirements and in line with workplace procedures</p> <p>3.3 Position machinery to ensure stable effective shift materials according to work requirements</p> <p>3.4 Shift load safely and effectively using hand, audible and communication signal, in line with workplace procedures</p>

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	3.5 Park up, shut down, secure and carry out post operational inspection of equipment in line with workplace procedures
4. Prepare to relocate the front end loader	4.1 Prepare front end loader for relocation 4.2 Move front end loader safely within and/or between work areas, observing relevant codes and traffic management requirements 4.3 Assist loading and unloading machine from float/trailer as required by workplace procedures
5. Conduct housekeeping activities	5.1 Clear work area and dispose of or recycle materials according to workplace procedures 5.2 Manage and/or report hazards to maintain a safe working environment 5.3 Complete and file or distribute documentation in a manner that complies with workplace practices

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Skill	Description
Reading	<ul style="list-style-type: none"> Identifies and interprets information from workplace procedures, documentation, legislation and regulations
Numeracy	<ul style="list-style-type: none"> Uses equipment operating capacity schedule to confirm safe weight load limits

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
RIIMPO321F Conduct civil construction	RIIMPO321E Conduct civil construction wheeled	Minor updates to reflect changes to operator maintenance	Equivalent unit

wheeled front end loader operations (Release 1)	front end loader operations (Release 1)	and relocation activities	
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Links

Companion Volume Implementation Guides are available from VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIIMPO321F Conduct civil construction wheeled front end loader operations

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 3.0.
Release 2	Editorial corrections.
Release 3	Editorial and other amendments made to clarify requirements in Application and Performance Criteria 4.3.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements and performance criteria of this unit.

The candidate must demonstrate completion of wheeled front end loader operations that safely, effectively and efficiently follows workplace procedures to carry out work activity on at least two occasions, and include:

- conducting prestart checks prior to commencing operations and shutdown procedures on completion of operations
- driving and operating the equipment, and adjusting techniques to suit site conditions
- completion of operations to specification using at least two different material types including:
 - mixing materials
 - stripping/spreading materials
 - loading, cutting/boxing
 - backfilling
- lifting and carrying materials
- assisting with loading and unloading wheeled front end loader from float/trailer
- site clean-up on
- parking and securing equipment.

In the course of the above the candidate must also:

- locate and apply relevant documentation, policies and procedures
- select and wear personal protective equipment required for work activities
- apply safe work practices, identifying and reporting all potential hazards, risks and environmental issues

- apply problem solving and troubleshooting techniques when operating equipment
- monitor and manage equipment performance using indicators and alarms
- identify common equipment faults
- monitor and manage equipment performance using indicators and alarms
- identify common equipment faults
- apply levelling techniques
- establish weight of load
- select and use the required tools and equipment
- use a range of communication techniques and equipment essential to the safe completion of work activity, including hand, audible and other signals
- meet written and verbal reporting requirements and procedures associated with equipment operations
- organise work activities to meet all task requirements.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements and performance criteria of this unit. This includes:

Key policies and procedures, legislation and established requirements for front end loader operations, including those relating to:

- isolation requirements
- fires, accidents and emergencies
- work health and safety, including signs of operator fatigue and how it should be managed
- site isolation and traffic control responsibilities and authorities
- project quality requirements
- chain of responsibility for loading and unloading of equipment
- operational, maintenance and basic diagnostics
- personal protective equipment
- recyclable materials
- housekeeping activities

Key factors affecting work activities described in performance evidence above, including:

- equipment processes, technical capability and limitations
- drawings and sketches
- ground conditions
- materials characteristics, including density and viscosity

Key features associated with civil construction works, including:

- civil construction terminology
- basic principles of material technology and material compaction for civil works
- basic earthworks calculations
- civil construction activity sequences of road construction, earthworks and drainage.

Assessment Conditions

Mandatory conditions for assessment of this unit are stipulated below. The assessment must:

- include access to:
 - wheeled front end loader
 - materials to be shifted
 - personal protective equipment
- be conducted in a safe environment; and,
- be assessed in context of this sector's work environment; and,
- be assessed in compliance with relevant legislation/regulation and using policies, procedures, processes and operational manuals directly related to the industry sector for which it is being assessed; and,
- confirm consistent performance can be applied in a range of relevant workplace circumstances

Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated work environment* provided it is realistic and sufficiently rigorous to cover all aspects of this sector's workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.

Assessor requirements

Assessors must be able to clearly demonstrate current and relevant industry knowledge and experience to satisfy the mandatory competency standards as set out in the Standards for Registered Training Organisations (RTOs) 2015/AQTF mandatory requirements for assessors current at the time of assessment and any relevant licensing and certification requirements.

This includes:

- vocational competencies at least to the level being delivered and assessed
- current industry skills directly relevant to the training and assessment being provided
- current knowledge and skills in vocational training and learning that informs their training and assessment
- formal relevant qualifications in training and assessment
- having knowledge of and/or experience using the latest techniques and processes
- possessing a high level of RII training product knowledge
- having an understanding and knowledge of legislations and regulations relevant to the industry and to employment and workplaces
- demonstrating the performance evidence, and knowledge evidence as outlined in this Unit of Competency, and through
- the minimum years of current** work experience after competency has been obtained as specified below in an industry sector relevant to the outcomes of the unit.

It is also acceptable for the appropriately qualified assessor to work with an industry expert to conduct assessment together and for the industry expert to be involved in the assessment judgement. The industry expert must hold the relevant vocational competencies and have current industry skills directly relevant to the training and assessment being provided and must work alongside a trainer and/or assessor to conduct the assessment. This means the industry subject matter expert should hold the unit being assessed (or an equivalent unit), and must also demonstrate skills and knowledge from the minimum years of current work experience after competency has been obtained as specified below, including time spent in roles related to the unit being assessed:

Industry sector	AQF indicator level***	Required assessor or industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Infrastructure	1	1 Year
	2	2 Years
Drilling, Coal Mining, Extractive (Quarrying), Metalliferous Mining and Civil Infrastructure	3-6	3 Years
Other sectors	Where this unit is being assessed outside of the resources and infrastructure sectors, assessor and/or industry subject matter expert experience should be in-line with industry standards for the sector in which it is being assessed and, where no industry standard is specified, should comply with any relevant regulation.	

*Guidance on simulated environments has been stipulated in the RII implementation guide located on VETNet.

**Assessors can demonstrate current work experience through employment within industry in a role relevant to the outcomes of the unit; or, for external assessors this can be demonstrated through exposure to industry by conducting a minimum number of site assessments as determined by the relevant industry sector, across various locations.

*** While a Unit of Competency does not have an AQF level, where a unit is being delivered outside of a qualification the first numeric character in the unit code should be considered as the AQF indicator level for assessment purposes.

Links

Companion Volume Implementation Guides are available from VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

RIIMPO322E Conduct civil construction tracked front end loader operations

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 3.0.
Release 2	Editorial corrections.
Release 3	Editorial and other amendments made to clarify requirements in Application and Performance Criteria 4.3.

Application

This unit describes the skills and knowledge required to operate a tracked front end loader to shift loads.

This unit applies to those working in site based roles.

Licensing, legislative, regulatory and certification requirements that apply to this unit can vary between states, territories, and industry sectors, and must be sourced from state jurisdictions prior to applying this unit.

This unit alone does not provide sufficient skill to independently load and unload equipment. To perform this activity safely, personnel must either complete or be assisting someone who has completed RIIHAN308F Load and unload plant or equivalent.

Unit Sector

Civil infrastructure

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare for tracked front end loader operations	1.1 Access, interpret and apply tracked front end loader operations documentation and ensure the work activity is compliant 1.2 Obtain, interpret, clarify and confirm work instructions

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>1.3 Identify hazards and environmental issues, assess the risks and implement control measures in line with workplace policies</p> <p>1.4 Select and wear personal protective equipment required for work activities</p> <p>1.5 Identify, obtain and implement traffic management signage requirements</p> <p>1.6 Select required tracked front end loader equipment and/or attachments and confirm suitability for work activities</p> <p>1.7 Obtain and interpret emergency procedures for tracked front end loaders, and be prepared for fires, accidents and emergencies</p> <p>1.8 Coordinate and communicate planned activities with others at the site prior to commencement of work activity</p>
2. Operate front end loader in line with established requirements	<p>2.1 Carry out prestart and start-up checks in line with workplace procedures</p> <p>2.2 Identify faults or defects and rectify or report within scope of own responsibility and according to workplace procedures</p> <p>2.3 Drive and operate front end loader using techniques suited to equipment capabilities, site and work conditions, and according to workplace procedures</p> <p>2.4 Monitor hazards and risks during operations, and ensure safety of self, other personnel, plant and equipment</p> <p>2.5 Monitor and manage equipment performance using indicators and alarms</p>
3. Attach, secure, lift, carry and place	<p>3.1 Establish weight of load and ensure it is within safe operational limits of the machine</p> <p>3.2 Use lifting gear within safe work load requirements and in line with workplace procedures</p> <p>3.3 Position machinery to ensure stable effective shift materials of according to work requirements</p> <p>3.4 Shift load safely and effectively using hand, audible and communication signals, in line with workplace procedures</p> <p>3.5 Park up, shut down, secure and carry out post operational inspection of equipment in line with workplace procedures</p>
4. Relocate the front	4.1 Prepare front end loader for relocation

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
end loader	4.2 Move front end loader safely between work sites, observing relevant codes and traffic management requirements 4.3 Assist loading and unloading machine from float/trailer as required by workplace procedures
5. Conduct housekeeping activities	5.1 Clear work area and dispose or recycle materials according to workplace procedures in accordance with project environmental management plan 5.2 Manage and/or report hazards to maintain a safe working environment 5.3 Complete and file or distribute documentation in a manner that complies with workplace practices

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Skill	Description
Reading	<ul style="list-style-type: none"> Identifies and interprets information from workplace procedures, documentation, legislation and regulations
Numeracy	<ul style="list-style-type: none"> Uses equipment operating capacity schedule to confirm safe weight load limits

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
RIIMPO322E Conduct civil construction tracked front end loader operations (Release 2)	RIIMPO322E Conduct civil construction tracked front end loader operations (Release 1)	Editorial corrections.	Equivalent unit

Links

Companion Volume Implementation Guides are available from VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIIMPO322E Conduct civil construction tracked front end loader operations

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 3.0.
Release 2	Editorial corrections.
Release 3	Editorial and other amendments made to clarify requirements in Application and Performance Criteria 4.3.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements and performance criteria of this unit.

The candidate must demonstrate completion of tracked front end loader operations that safely, effectively and efficiently follows workplace procedures to carry out work activity on at least two occasions, and include:

- conducting prestart checks prior to commencing operations and shutdown procedures on completion of operations
- driving and operating the equipment, and adjusting techniques to suit site conditions
- completion of operations to specification using at least two different material types including:
 - mixing materials
 - stripping/spreading materials
 - loading
 - cutting/boxing
 - backfilling
 - lifting and carry materials
 - site clean-up
- select and wear personal protective equipment required for work activities
- parking and securing of equipment

In the course of the above the candidate must also:

- locate and apply relevant documentation, policies and procedures
- carry out vehicle refuelling requirements and procedures where applicable

- apply safe work practices, identifying and reporting all potential hazards, risks and environmental issues
- apply problem solving and troubleshooting techniques when operating equipment
- monitor and manage equipment performance using indicators and alarms
- identify common equipment faults
- establish weight of load
- manage changes in the loads centre of gravity during transportation
- apply levelling techniques
- select and use the required tools and equipment
- use a range of communication techniques and equipment essential to the safe completion of work activity, including hand, audible and other signals
- meet written and verbal reporting requirements and procedures associated with equipment operations
- organise work activities to meet all task requirements.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements and performance criteria of this unit. This includes:

Key policies and procedures, legislation and established requirements for tracked front end loader operations, including those relating to:

- isolation requirements
- fires, accidents and emergencies
- work health and safety, including signs of operator fatigue and how it should be managed
- site isolation and traffic control responsibilities and authorities
- project quality requirements
- chain of responsibility for loading and unloading of equipment
- operational, maintenance and basic diagnostics
- personal protective equipment
- recyclable materials
- housekeeping activities

Key factors affecting work activities described in performance evidence above, including:

- equipment processes, technical capability and limitations
- drawings and sketches
- ground conditions
- materials characteristics, including density and viscosity

Key features associated with civil construction works, including:

- civil construction terminology
- basic principles of material technology and material compaction for civil works
- basic earthworks calculations
- civil construction activity sequences of road construction, earthworks and drainage.

Assessment Conditions

Mandatory conditions for assessment of this unit are stipulated below. The assessment must:

- include access to:
 - tracked front end loader
 - materials to be shifted
 - personal protective equipment
- be conducted in a safe environment; and,
- be assessed in context of this sector's work environment; and,
- be assessed in compliance with relevant legislation/regulation and using policies, procedures, processes and operational manuals directly related to the industry sector for which it is being assessed; and,
- confirm consistent performance can be applied in a range of relevant workplace circumstances

Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated work environment* provided it is realistic and sufficiently rigorous to cover all aspects of this sector's workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.

Assessor Requirements

Assessors must be able to clearly demonstrate current and relevant industry knowledge and experience to satisfy the mandatory competency standards as set out in the Standards for Registered Training Organisations (RTOs) 2015/AQTF mandatory requirements for assessors current at the time of assessment and any relevant licensing and certification requirements. This includes:

- vocational competencies at least to the level being delivered and assessed
- current industry skills directly relevant to the training and assessment being provided
- current knowledge and skills in vocational training and learning that informs their training and assessment
- formal relevant qualifications in training and assessment
- having knowledge of and/or experience using the latest techniques and processes
- possessing a high level of RII training product knowledge
- having an understanding and knowledge of legislations and regulations relevant to the industry and to employment and workplaces
- demonstrating the performance evidence, and knowledge evidence as outlined in this Unit of Competency, and
- the minimum years of current** work experience after competency has been obtained as specified below in an industry sector relevant to the outcomes of the unit.

It is also acceptable for the appropriately qualified assessor to work with an industry expert to conduct assessment together and for the industry expert to be involved in the assessment judgement. The industry expert must hold the relevant vocational competencies and have current industry skills directly relevant to the training and assessment being provided and must work alongside a trainer and/or assessor to conduct the assessment. This means the industry subject matter expert should hold the unit being assessed (or an equivalent unit), and must also demonstrate skills and knowledge from the minimum years of current work experience after competency has been obtained as specified below, including time spent in roles related to the unit being assessed:

Industry sector	AQF indicator level***	Required assessor or industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Infrastructure	1	1 Year
	2	2 Years
Drilling, Coal Mining, Extractive (Quarrying), Metalliferous Mining and Civil Infrastructure	3-6	3 Years
Other sectors	Where this unit is being assessed outside of the resources and infrastructure sectors assessor and/or industry subject matter expert experience should be in-line with industry standards for the sector in which it is being assessed and where no industry standard is specified should comply with any relevant regulation.	

*Guidance on simulated environments has been stipulated in the RII implementation guide located on VETNet.

**Assessors can demonstrate current work experience through employment within industry in a role relevant to the outcomes of the unit; or, for external assessors this can be demonstrated through exposure to industry by conducting a minimum number of site assessments as determined by the relevant industry sector, across various locations.

*** While a Unit of Competency does not have an AQF level, where a unit is being delivered outside of a qualification the first numeric character in the unit code should be considered as the AQF indicator level for assessment purposes.

Links

Companion Volume Implementation Guides are available from VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

RIIMPO323E Conduct civil construction dozer operations

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 3.0.
Release 2	Editorial corrections.
Release 3	Editorial corrections to performance evidence.
Release 4	Editorial and other amendments made to clarify requirements in Application and Performance Criteria 4.3.

Application

This unit describes the skills and knowledge required to conduct dozer operations.

This unit applies to those working in site based roles.

Licensing, legislative, regulatory and certification requirements that apply to this unit can vary between states, territories, and industry sectors, and must be sourced from state jurisdictions prior to applying this unit.

This unit alone does not provide sufficient skill to independently load and unload equipment. To perform this activity safely, personnel must either complete or be assisting someone who has completed RIIHAN308F Load and unload plant or equivalent.

Unit Sector

Civil infrastructure

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare for dozer operations	1.1 Access, interpret and apply dozer operations documentation 1.2 Obtain, interpret, clarify and confirm work instructions 1.3 Identify hazards and environmental issues, assess the risks and

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>implement control measures in line with workplace policies</p> <p>1.4 Select and wear personal protective equipment required for work activities</p> <p>1.5 Identify, obtain and implement traffic management signage requirements</p> <p>1.6 Select required dozer tools, equipment and/or attachments and confirm suitability for work activities</p> <p>1.7 Obtain and interpret emergency procedures for dozers, and be prepared for fires, accidents and emergencies</p> <p>1.8 Coordinate and communicate planned activities with others at the site prior to commencement of work activity</p>
2. Operate dozer in line with established requirements to complete work plan	<p>2.1 Carry out prestart and start-up checks in line with workplace procedures</p> <p>2.2 Identify faults or defects and rectify or report within scope of own responsibility and according to workplace procedures</p> <p>2.3 Drive and operate dozer using techniques suited to equipment capabilities, site and work conditions, and according to workplace procedures</p> <p>2.4 Monitor hazards and risks during operations, and ensure safety of self, other personnel, plant and equipment</p> <p>2.5 Perform work activity within the operating capacity of the equipment</p> <p>2.6 Monitor and manage equipment performance using indicators and alarms</p> <p>2.7 Park up, shut down, secure and carry out post operational inspection of equipment in line with workplace procedures</p>
3. Select, remove, fit and use attachments for a dozer	<p>3.1 Select attachment for the task</p> <p>3.2 Fit attachment in line with workplace procedures</p> <p>3.3 Test attachment and ensure correct fitting and operation</p> <p>3.4 Use attachment within design limits and in accordance with workplace procedures</p> <p>3.5 Remove, clean and store attachments in designated location in line with workplace procedures</p>
4. Relocate the dozer	4.1 Prepare dozer for relocation

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>4.2 Move dozer safely between worksites, observing relevant codes and traffic management requirements</p> <p>4.3 Assist loading and unloading of machine from float/trailer as required by workplace procedures</p>
5. Conduct housekeeping activities	<p>5.1 Clear work area and dispose of or recycle materials according to workplace procedures</p> <p>5.2 Manage and/or report hazards to maintain a safe working environment</p> <p>5.3 Complete and file or distribute documentation in a manner that complies with workplace practices</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Skill	Description
Reading	<ul style="list-style-type: none"> Identifies and interprets information from workplace procedures, documentation, legislation and regulations
Numeracy	<ul style="list-style-type: none"> Uses equipment operating capacity schedule to confirm safe weight load limits

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
RIIMPO323E Conduct civil construction dozer operations (Release 2)	RIIMPO323E Conduct civil construction dozer operations (Release 1)	Editorial corrections	Equivalent unit

Links

Companion Volume Implementation Guides are available from VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIIMPO323E Conduct civil construction dozer operations

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 3.0.
Release 2	Editorial corrections.
Release 3	Editorial corrections to performance evidence.
Release 4	Editorial and other amendments made to clarify requirements in Application and Performance Criteria 4.3.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements and performance criteria of this unit.

The candidate must demonstrate completion of dozer operations that safely, effectively and efficiently follows workplace procedures to carry out work activity, and include:

- conducting prestart checks prior to commencing operations and shutdown procedures on completion of operations
- driving and operating the equipment, and adjusting techniques to suit site conditions
- completion of operations to specification in at least two different material types on at least three occasions including:
 - stripping/spreading materials
 - cut and fill
 - battering
 - stockpiling
 - bulk excavation
 - cutting drains
 - benching
 - backfilling
 - site clean-up on
- selecting, fitting, testing, using and removing a minimum of two attachments, which must be certified and approved in line with workplace procedures and could include, but are not limited to, the following:
 - stick rakes

- root rakes
- push blade
- angle blade
- bull blade
- power angle tilt blade
- rippers, winch
- tree pusher
- cable plough
- stump plough
- power control unit
- cable drum
- ground engaging tools
- assisting with loading and unloading unit plant type from float/trailer
- parking and securing of equipment.

In the course of the above the candidate must also:

- locate and apply relevant documentation, policies and procedures
- select and wear personal protective equipment required for work activities
- carry out vehicle refuelling requirements and procedures where applicable
- apply safe work practices, identifying and reporting all potential hazards, risks and environmental issues
- apply problem solving and troubleshooting techniques
- monitor and manage equipment performance using indicators and alarms
- identify common equipment faults
- apply levelling techniques
- select and use the required tools and equipment
- establish weight of load
- apply methods of changing machine attachments
- use a range of communication techniques and equipment essential to the safe completion of work activity, including hand, audible and other signals
- meet written and verbal reporting requirements and procedures associated with equipment operations
- organise work activities to meet all task requirements.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements and performance criteria of this unit. This includes:

Key policies and procedures, legislation and established requirements for dozer operations, including those relating to:

- isolation requirements
- fires, accidents and emergencies

- work health and safety, including signs of operator fatigue and how it should be managed
- site isolation and traffic control responsibilities and authorities
- project quality requirements
- chain of responsibility for loading and unloading of equipment
- operational, maintenance and basic diagnostics
- personal protective equipment
- recyclable materials
- housekeeping activities
- machine guidance systems

Key factors affecting work activities described in performance evidence above, including:

- equipment processes, technical capability and limitations
- drawings and sketches
- ground conditions
- materials characteristics, including density and viscosity

Key features associated with civil construction works, including:

- civil construction terminology
- basic principles of material technology and material compaction for civil works
- basic earthworks calculations
- civil construction activity sequences of road construction, earthworks and drainage.

Assessment Conditions

Mandatory conditions for assessment of this unit are stipulated below. The assessment must:

- include access to:
 - dozer
 - personal protective equipment
- be conducted in a safe environment; and,
- be assessed in context of this sector's work environment; and,
- be assessed in compliance with relevant legislation/regulation and using policies, procedures, processes and operational manuals directly related to the industry sector for which it is being assessed; and,
- confirm consistent performance can be applied in a range of relevant workplace circumstances

Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated work environment* provided it is realistic and sufficiently rigorous to cover all aspects of this sector's workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.

Assessor Requirements

Assessors must be able to clearly demonstrate current and relevant industry knowledge and experience to satisfy the mandatory competency standards as set out in the Standards for Registered Training Organisations (RTOs) 2015/AQTF mandatory requirements for assessors current at the time of assessment and any relevant licensing and certification requirements.

This includes:

- vocational competencies at least to the level being delivered and assessed
- current industry skills directly relevant to the training and assessment being provided
- current knowledge and skills in vocational training and learning that informs their training and assessment
- formal relevant qualifications in training and assessment
- having knowledge of and/or experience using the latest techniques and processes
- possessing a high level of RII training product knowledge
- having an understanding and knowledge of legislations and regulations relevant to the industry and to employment and workplaces
- demonstrating the performance evidence, and knowledge evidence as outlined in this Unit of Competency, and
- the minimum years of current** work experience after competency has been obtained as specified below in an industry sector relevant to the outcomes of the unit.

It is also acceptable for the appropriately qualified assessor to work with an industry expert to conduct assessment together and for the industry expert to be involved in the assessment judgement. The industry expert must hold the relevant vocational competencies and have current industry skills directly relevant to the training and assessment being provided and must work alongside a trainer and/or assessor to conduct the assessment. This means the industry subject matter expert should hold the unit being assessed (or an equivalent unit), and must also demonstrate skills and knowledge from the minimum years of current work experience after competency has been obtained as specified below, including time spent in roles related to the unit being assessed:

Industry sector	AQF indicator level***	Required assessor or industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Infrastructure	1	1 Year
	2	2 Years
Drilling, Coal Mining, Extractive (Quarrying), Metalliferous Mining and Civil Infrastructure	3-6	3 Years
Other sectors	Where this unit is being assessed outside of the resources and infrastructure sectors assessor and/or industry subject matter expert experience should be in-line with industry standards for the sector in which it is being	

	assessed and where no industry standard is specified should comply with any relevant regulation.
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*Guidance on simulated environments has been stipulated in the RII implementation guide located on VETNet.

**Assessors can demonstrate current work experience through employment within industry in a role relevant to the outcomes of the unit; or, for external assessors this can be demonstrated through exposure to industry by conducting a minimum number of site assessments as determined by the relevant industry sector, across various locations.

*** While a Unit of Competency does not have an AQF level, where a unit is being delivered outside of a qualification the first numeric character in the unit code should be considered as the AQF indicator level for assessment purposes.

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RIIMPO324F Conduct civil construction grader operations

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 3.0.
Release 2	Editorial corrections.
Release 3	Minor change to performance evidence.
Release 4	Editorial and other amendments made to clarify requirements in Application and Performance Criteria 4.3.

Application

This unit describes the skills and knowledge required to conduct grader operations.

This unit applies to those working in site based roles.

Licensing, legislative, regulatory and certification requirements that apply to this unit can vary between states, territories, and industry sectors, and must be sourced from state jurisdictions prior to applying this unit.

This unit alone does not provide sufficient skill to independently load and unload equipment. To perform this activity safely, personnel must either complete or be assisting someone who has completed RIIHAN308F Load and unload plant or equivalent.

Unit Sector

Civil infrastructure

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare for grader operations	1.1 Access, interpret and apply grader operations documentation 1.2 Obtain, interpret, clarify and confirm work instructions 1.3 Identify hazards and environmental issues, assess the risks and

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	<p>implement control measures in line with workplace policies</p> <p>1.4 Select and wear personal protective equipment required for work activities</p> <p>1.5 Identify, obtain and implement traffic management signage requirements according to standard operating procedures and safe work practices</p> <p>1.6 Select required grader equipment and/or attachments and confirm suitability for work activities</p> <p>1.7 Obtain and interpret emergency procedures for graders, and be prepared for fires, accidents and emergencies</p> <p>1.8 Coordinate and communicate planned activities with others at the site prior to commencement of work activity</p>
2. Operate grader in line with established requirements to complete work activity	<p>2.1 Carry out prestart and start-up checks in line with workplace procedures</p> <p>2.2 Identify faults or defects and rectify or report within scope of own responsibility and according to workplace procedures</p> <p>2.3 Drive and operate grader using techniques suited to equipment capabilities, site and work conditions, and according to workplace procedures</p> <p>2.4 Identify and apply operating techniques for grader to achieve optimum output within specified tolerances</p> <p>2.5 Perform work activity within the operating capacity of the equipment in accordance with manufacturers' specifications</p> <p>2.6 Monitor hazards and risks during operations, and ensure safety of self, other personnel, plant and equipment</p> <p>2.7 Monitor and manage equipment performance using indicators and alarms</p> <p>2.8 Park up, shut down, secure and carry out post operational inspection of equipment in line with workplace procedures</p>
3. Select, remove, fit and use attachments for grader	<p>3.1 Select attachment for the task</p> <p>3.2 Fit attachment in line with workplace procedures</p> <p>3.3 Test attachment and ensure correct fitting and operation</p> <p>3.4 Use attachment within design limits and in accordance with workplace procedures</p> <p>3.5 Remove, clean and store attachments in designated location in line</p>

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	with workplace procedures
4. Prepare to relocate the grader	4.1 Prepare grader for relocation 4.2 Move grader safely within and between work areas, observing relevant codes and traffic management requirements 4.3 Assist loading and unloading machine from float/trailer as required by workplace procedures
5. Conduct housekeeping activities	5.1 Clear work area and dispose of or recycle materials according to workplace procedures 5.2 Manage and/or report hazards to maintain a safe working environment 5.3 Complete and file or distribute documentation in a manner that complies with workplace practices

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Skill	Description
Reading	<ul style="list-style-type: none"> Identifies and interprets information from workplace procedures, documentation, legislation and regulations
Numeracy	<ul style="list-style-type: none"> Uses equipment operating capacity schedule to confirm safe weight load limits

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
RIIMPO324F Conduct civil construction grader operations (Release 2)	RIIMPO324F Conduct civil construction grader operations (Release 1)	Editorial corrections.	Equivalent unit

Links

Companion Volume Implementation Guides are available from VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIIMPO324F Conduct civil construction grader operations

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 3.0.
Release 2	Editorial corrections.
Release 3	Minor change to performance evidence.
Release 4	Editorial and other amendments made to clarify requirements in Application and Performance Criteria 4.3.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements and performance criteria of this unit.

The candidate must demonstrate completion of grader operations that safely, effectively and efficiently follows workplace procedures to meet carry out work activity on at least two occasions, and include:

- conducting prestart checks prior to commencing operations and shutdown procedures on completion of operations
- driving and operating the equipment to site conditions
- completion of operations to specification using at least two different material types including:
 - cutting and maintaining drains
 - forming/upgrading/maintaining roads
 - mixing/ spreading materials
 - scarifying and ripping
 - cutting and trimming of batters
 - trimming of road sub-grades and pavements
 - site clean-up
 - form and carry a windrow
- selecting, fitting, testing, using and removing at least two attachments, the attachment must be certified and approved in line with workplace procedures
- assisting with loading and unloading unit plant type from float/trailer
- parking and securing of equipment.

In the course of the above the candidate must also:

- locate and apply relevant documentation, policies and procedures
- select and wear personal protective equipment required for work activities
- carry out vehicle refuelling requirements and procedures where applicable
- apply safe work practices, identifying and reporting all potential hazards, risks and environmental issues
- apply problem solving and troubleshooting techniques when operating equipment
- monitor and manage equipment performance using indicators and alarms
- identify common equipment faults
- establish weight of load
- apply levelling techniques
- apply cut and fill techniques
- conduct towing of equipment/plant where required
- select and use the required tools and equipment
- apply methods of changing machine attachments
- use a range of communication techniques and equipment essential to the safe completion of work activity, including hand, audible and other signals
- meet written and verbal reporting requirements and procedures associated with equipment operations
- organise work activities to meet all task requirements.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements and performance criteria of this unit. This includes:

Key policies and procedures, legislation and established requirements for grader operations, including those relating to:

- isolation requirements
- fires, accidents and emergencies
- work health and safety, including signs of operator fatigue and how it should be managed
- site isolation and traffic control responsibilities and authorities
- project quality requirements
- chain of responsibility for loading and unloading of equipment
- operational, maintenance and basic diagnostics
- personal protective equipment
- recyclable materials
- housekeeping activities
- machine guidance systems and laser levelling equipment

Key factors affecting work activities described in performance evidence above, including:

- equipment processes, technical capability and limitations
- drawings and sketches
- ground conditions

- materials characteristics, including density and viscosity

Key features associated with civil construction works, including:

- civil construction terminology
- basic principles of material technology and material compaction for civil works
- basic earthworks calculations
- civil construction activity sequences of road construction, earthworks and drainage.

Assessment Conditions

Mandatory conditions for assessment of this unit are stipulated below. The assessment must:

- include access to:
 - unit plant type
 - materials to be shifted
 - personal protective equipment
- be conducted in a safe environment; and,
- be assessed in context of this sector's work environment; and,
- be assessed in compliance with relevant legislation/regulation and using policies, procedures, processes and operational manuals directly related to the industry sector for which it is being assessed; and,
- confirm consistent performance can be applied in a range of relevant workplace circumstances

Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated work environment* provided it is realistic and sufficiently rigorous to cover all aspects of this sector's workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.

Assessor Requirements

Assessors must be able to clearly demonstrate current and relevant industry knowledge and experience to satisfy the mandatory competency standards as set out in the Standards for Registered Training Organisations (RTOs) 2015/AQTF mandatory requirements for assessors current at the time of assessment and any relevant licensing and certification requirements.

This includes:

- vocational competencies at least to the level being delivered and assessed
- current industry skills directly relevant to the training and assessment being provided
- current knowledge and skills in vocational training and learning that informs their training and assessment
- formal relevant qualifications in training and assessment
- having knowledge of and/or experience using the latest techniques and processes
- possessing a high level of RII training product knowledge
- having an understanding and knowledge of legislations and regulations relevant to the industry and to employment and workplaces

- demonstrating the performance evidence, and knowledge evidence as outlined in this Unit of Competency, and
- the minimum years of current** work experience after competency has been obtained as specified below in an industry sector relevant to the outcomes of the unit.

It is also acceptable for the appropriately qualified assessor to work with an industry expert to conduct assessment together and for the industry expert to be involved in the assessment judgement. The industry expert must hold the relevant vocational competencies and have current industry skills directly relevant to the training and assessment being provided and must work alongside a trainer and/or assessor to conduct the assessment. This means the industry subject matter expert should hold the unit being assessed (or an equivalent unit), and must also demonstrate skills and knowledge from the minimum years of current work experience after competency has been obtained as specified below, including time spent in roles related to the unit being assessed:

Industry sector	AQF indicator level***	Required assessor or industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Infrastructure	1	1 Year
	2	2 Years
Drilling, Coal Mining, Extractive (Quarrying), Metalliferous Mining and Civil Infrastructure	3-6	3 Years
Other sectors	Where this unit is being assessed outside of the resources and infrastructure sectors, assessor and/or industry subject matter expert experience should be in-line with industry standards for the sector in which it is being assessed and, where no industry standard is specified, should comply with any relevant regulation.	

*Guidance on simulated environments has been stipulated in the RII implementation guide located on VETNet.

**Assessors can demonstrate current work experience through employment within industry in a role relevant to the outcomes of the unit; or, for external assessors this can be demonstrated through exposure to industry by conducting a minimum number of site assessments as determined by the relevant industry sector, across various locations.

*** While a Unit of Competency does not have an AQF level, where a unit is being delivered outside of a qualification the first numeric character in the unit code should be considered as the AQF indicator level for assessment purposes.

Links

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RIIPGP201D Conduct pump operations

Modification History

Release	Comment
1	This unit replaces RIIPGP201A Conduct pump operations
2	Required frequency and volume of evidence amended in Performance evidence. Substantial amendments made in Assessment Conditions field, including: references to Industry Sectors, assessor and subject matter expert experience requirements, how assessment should be conducted and what it should confirm.

Application

This unit describes a participant's skills and knowledge required to conduct pump operations in Metalliferous Mining.

This unit is appropriate for those working in operational roles.

Licensing, legislative, regulatory and certification requirements that apply to this unit can vary between states, territories, and Industry sectors. Relevant information must be sourced prior to application of the unit.

Unit Sector

Metalliferous mining

Elements and Performance Criteria

1. Plan and prepare for pumping operations	1.1. Access, interpret and apply pumping operations documentation and ensure the work activity is compliant 1.2. Obtain, read, interpret, clarify and confirm work requirements 1.3. Select and wear personal protective equipment appropriate for the activity 1.4. Obtain and interpret emergency procedures, and be prepared for fire/accident/emergency 1.5. Identify and address potential risks, hazards and environmental issues, and implement control measures 1.6. Conduct equipment pre-start checks
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2. Pump material	2.1. Carry out start-up and shutdown procedures 2.2. Operate equipment within recommended speed, engine capability and limitations 2.3. Monitor equipment performance utilising appropriate indicators 2.4. Complete work according to agreed work plan and outcomes 2.5. Constantly monitor pressure and flow of material
3. Carry out operator maintenance	3.1. Conduct visual inspection and fault finding 3.2. Conduct routine operational servicing to ensure peak performance of equipment 3.3. Clean and maintain equipment 3.4. Complete all required records and documentation accurately and promptly

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit. Further information is available in the Resources and Infrastructure Industry Training Package Companion Volume.

Unit Mapping Information

RIIPGP201A Conduct pump operations

Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIIPGP201D Conduct pump operations

Modification History

Release	Comment
1	This unit replaces RIIPGP201A Conduct pump operations
2	Required frequency and volume of evidence amended in Performance evidence. Substantial amendments made in Assessment Conditions field, including: references to Industry Sectors, assessor and subject matter expert experience requirements, how assessment should be conducted and what it should confirm.

Performance Evidence

Evidence is required to be collected that demonstrates a candidate's competency in this unit. Evidence must be relevant to the roles within this sector's work operations and satisfy all of the requirements of the performance criteria of this unit and include evidence that the candidate:

- locates and applies applicable legislation, documentation, policies and procedures
- implements requirements, procedures and techniques for safe, effective pump operations including:
 - selecting and using the required hand and power tools
 - identify and handle hazardous goods
 - maintain, clean and operate equipment
 - identifying potential risks and hazards
- works with others to undertake and complete pump operations that meets all of the required outcomes including:
 - using a range of communications techniques and equipment to convey information to others
 - maintaining written and verbal reporting requirements and procedures
 - communicating to confirm work/plans/specifications
- demonstrates completion of pump operations that safely, effectively and efficiently meets all of the required outcomes on more than one (1) occasion including:
 - performing pump start up procedure
 - pumping material and operating equipment for optimum efficiency
 - monitoring equipment and operations
 - performing pump shutdown procedure
 - applying visual inspection and fault finding techniques

- conducting operational servicing

Knowledge Evidence

The candidate must demonstrate knowledge of pump operations through:

- applying legislative, organisation and site requirements and procedures for:
 - risk assessment and management
 - statutory compliance
 - work health and safety
- maintain, clean and operate equipment
- identifying and handling hazardous goods
- maintaining records
- monitoring operations and conducting fault finding
- identifying site and equipment's safety requirements
- identifying communications equipment
- being prepared for emergency/fire and accidents
- complying with environmental principles
- identifying equipment processes, technical capability and limitations
- applying isolation procedures
- applying operational procedures and checks including material under pressure and mine operational system

Assessment Conditions

- An assessor of this unit must satisfy the requirements of the NVR/AQTF or their successors; and Industry regulations for certification and licensing.
- An assessor must demonstrate the skills and knowledge of this unit through five (5) years of current and continuous work in the Industry sector, with the preceding two (2) years in the field of the unit they are assessing.
- This unit must be assessed in the context of this sector's work environment.
- this unit must be assessed in compliance with relevant legislation/regulation and using policies, procedures, processes and operational manuals directly related to the industry sector for which it is being assessed; and,
- assessment may be conducted in conjunction with the assessment of other Units of Competency; and,
- assessment must confirm consistent performance can be applied in a range of relevant workplace circumstances; and,
- assessors must demonstrate the performance evidence, and knowledge evidence as outlined in this Unit of Competency, and through the minimum years of current* work experience specified below in an Industry sector relevant to the outcomes of the unit; or,

- where the assessor does not meet experience requirements a co-assessment or partnership arrangement must exist between the qualified assessor and an Industry subject matter expert. The Industry subject matter expert should hold the unit being assessed (or an equivalent unit) and/or demonstrate equivalence of skills and knowledge at the unit level. An Industry technical expert must also demonstrate skills and knowledge from the minimum years of current work experience specified below in the Industry sector, including time spent in roles related to the unit being assessed; and,
- assessor and Industry subject matter expert requirements differ depending on the Australian Qualifications Framework Level (AQF) of the qualification being assessed and/or Industry Sector as follows:

Industry sector	AQF** Level	Required assessor or Industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Construction	1	1 Year
	2	2 Years
Drilling, Coal Mining and Extractive (Quarrying)	3-6	3 Years
Metalliferous Mining and Civil Construction	3-6	5 Years
Other sectors	Where this Unit is being assessed outside of the Resources and Infrastructure Sectors assessor and/or Industry subject matter expert experience should be in-line with industry standards for the sector in which it is being assessed and where no Industry standard is specified should comply with any relevant regulation.	

*Assessors can demonstrate current work experience through employment within Industry in a role relevant to the outcomes of the Unit; or, for external assessors this can be demonstrated through exposure to Industry by conducting frequent site assessments across various locations.

**Where a unit is being delivered outside of a Qualification the first numeric character in the Unit code should be considered to indicate the AQF level

Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

RIIV304E Conduct tip truck operations

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 5.0.

Application

This unit describes the skills and knowledge required to conduct tip truck operations in the resources and infrastructure industries.

It applies to those working in supervisory and technical specialist roles. They generally work under minimal supervision to undertake a broad range of skilled applications in varied work contexts, using some discretion and judgement in selecting equipment, services or contingency measures.

Licensing, legislative and certification requirements may apply to this unit and can vary between states, territories and industry sectors. Users must check requirements with relevant body before applying the unit.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare for tip truck operations	1.1 Obtain, interpret and confirm work requirements 1.2 Access, interpret and apply documentation required to conduct tip truck operations 1.3 Identify, obtain and implement signage requirements according to the project traffic management plan 1.4 Select vehicle, tools and equipment required for the work activities 1.5 Check tools and equipment for serviceability and rectify or report faults to relevant personnel 1.6 Identify, confirm and apply environmental protection requirements from the project environmental management plan
2. Conduct tip truck pre-operational checks	2.1 Carry out prestart, start-up, park and shutdown according to workplace procedures 2.2 Check tip truck controls and functions, and ensure any faults are

ELEMENT	PERFORMANCE CRITERIA
	rectified or reported to relevant personnel
3. Operate tip truck	<p>3.1 Identify and manage site operating hazards and risks and apply safe operating techniques according to workplace procedures</p> <p>3.2 Manage engine power, ensure efficiency of truck movements, and minimise strain on the engine, drive line and gears according to manufacturer specifications</p> <p>3.3 Coordinate engine power with gear selection, ensure smooth transition and operation within torque range according to manufacturer specifications</p> <p>3.4 Operate tip truck to work instructions according to workplace procedures</p> <p>3.5 Monitor road and traffic conditions, consider road conditions, traffic flow, distance and load, ensure safety of people, property, equipment, loads and facilities</p> <p>3.6 Halt vehicle smoothly, using the engine retarder, gears and brakes according to manufacturer specifications</p>
4. Load, transport and tip materials	<p>4.1 Position tip truck at load and discharge points with a minimum of manoeuvre</p> <p>4.2 Carry out smooth and controlled tip truck movements including the raising and lowering of the tray according to manufacturer specifications</p> <p>4.3 Ensure weight and distribution of load is assessed for type of material and size of vehicle within vehicle capacity according to manufacturer specifications</p> <p>4.4 Maintain safety and security of load, including load cover requirements, from loading site to discharge site according to manufacturer specifications</p> <p>4.5 Discharge load on slope and/or over face at fill site</p> <p>4.6 Dump and spread material evenly according to workplace procedures</p> <p>4.7 Clear, lower and secure tray before resuming travel</p>
5. Carry out operator maintenance	<p>5.1 Ensure tip truck is safely parked and prepared for operator maintenance and shutdown</p> <p>5.2 Conduct visual and physical inspection and fault finding according to workplace procedures</p> <p>5.3 Remove and replace defective parts according to manufacturer specifications</p> <p>5.4 Carry out scheduled maintenance according to workplace procedures</p> <p>5.5 Process written maintenance records according to workplace procedures</p>
6. Clean up	6.1 Clear work area and dispose of materials according to workplace procedures

ELEMENT	PERFORMANCE CRITERIA
	6.2 Clean, check, maintain and store vehicle, tools and equipment according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

SKILL	DESCRIPTION
Reading	<ul style="list-style-type: none"> Identifies and interprets information from workplace procedures, documentation and regulations
Self-management	<ul style="list-style-type: none"> Monitors and minimises own exposure to worksite risks and hazards during activities

Unit Mapping Information

Supersedes and is equivalent to RIIVEH304D Conduct tip truck operations.

Links

Companion Volume implementation guides is found on VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIIV304E Conduct tip truck operations

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 5.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- conduct tip truck operations on at least two occasions, including:
 - organising work activities to comply with site standards
 - obtaining and applying signage requirements
 - carrying out log-on, prestart, start-up, park-up and shutdown procedures
 - operating, steering, manoeuvring and positioning tip truck
 - raising and lowering tray smoothly
 - applying load cover
 - discharging load on slope and/or over face
 - dumping and spreading materials
 - halting and parking tip truck
 - carrying out inspections and identifying faults
 - processing written records and reports.

During the above, the candidate must:

- locate and apply relevant legislation, documentation, policies and procedures and confirm that the work activity is compliant
- implement the requirements, procedures and techniques for conducting tip truck operations
- work effectively with others to conduct tip truck operations in a way that meets all required outcomes
- communicate clearly and concisely with others to receive and clarify work instructions and to determine coordination requirements prior to commencing and during work activities.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- key legislation required to conduct tip truck operations
- key policies, procedures and documentation required to conduct tip truck operations, including:
 - record, report and handover procedures
 - start up and shutdown procedures
 - safety requirements
 - operational, maintenance and basic diagnostic procedures
 - site isolation and traffic control responsibilities and authorities
 - safety data sheet and materials handling methods
 - vehicle manufacturer specifications and limitations
- tip truck types, characteristics, technical capabilities and limitations
- techniques for reporting faults in vehicles and ancillary equipment
- load quantity calculation techniques
- principles and techniques for identifying relevant hazards and emergencies
- techniques for coordinating and communicating job activities with others.

Assessment Conditions

Mandatory conditions for assessment of this unit are stipulated below. The assessment must:

- include access to:
 - personal protective equipment
 - equipment related to conducting tip truck operations
 - relevant documentation
- be conducted in a safe environment; and,
- be assessed in the context of this sector's work environment; and,
- be assessed in compliance with relevant legislation/regulation and using policies, procedures and processes directly related to the industry sector for which it is being assessed; and,
- confirm consistent performance can be applied in a range of relevant workplace circumstances.

Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated work environment* provided it is realistic and sufficiently rigorous to cover all aspects of this sector's workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.

Assessor requirements

Assessors must be able to clearly demonstrate current and relevant industry knowledge and experience to satisfy the mandatory regulatory standards as set out in the Standards for Registered Training Organisations (RTOs) 2015/Australian Quality Training Framework mandatory requirements for assessors current at the time of assessment and any relevant licensing and certification requirements. This includes:

- vocational competencies at least to the level being delivered and assessed
- current industry skills directly relevant to the training and assessment being provided
- current knowledge and skills in vocational training and learning that informs their training and assessment
- formal relevant qualifications in training and assessment
- having knowledge of and/or experience using the latest techniques and processes
- possessing the required level of RII training product knowledge
- having an understanding and knowledge of legislation and regulations relevant to the industry and to employment and workplaces
- demonstrating the performance evidence, and knowledge evidence outlined in this unit of competency, and
- the minimum years of current** work experience after competency has been obtained as specified below in an industry sector relevant to the outcomes of the unit.

It is also acceptable for the appropriately qualified assessor to work with an industry expert to conduct assessment together and for the industry expert to be involved in the assessment judgement. The industry expert must have current industry skills directly relevant to the training and assessment being provided. This means the industry subject matter expert must demonstrate skills and knowledge from the minimum years of current work experience after competency has been obtained as specified below, including time spent in roles related to the unit being assessed:

Industry sector	AQF indicator level***	Required assessor or industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Infrastructure	1	1 year
	2	2 years
Drilling, Coal Mining, Extractive (Quarrying), Metalliferous Mining and Civil Infrastructure	3-6	3 years
Other sectors	Where this unit is being assessed outside of the resources and infrastructure sectors assessor and/or industry subject matter expert experience should be in-line with industry standards for the sector in which it is being assessed and where no industry standard is specified should comply with any relevant regulation.	

*Guidance on simulated environments has been stipulated in the Companion Volume Implementation Guide located on VETNet.

**Assessors can demonstrate current work experience through employment within industry in a role relevant to the outcomes of the unit; or, for external assessors this can be demonstrated through exposure to industry by conducting a minimum number of site assessments as determined by the relevant industry sector, across various locations.

*** While a unit of competency does not have an AQF level, where a unit is being delivered outside of a qualification the first numeric character in the unit code should be considered as the AQF indicator level for assessment purposes.

Links

Companion Volume implementation guides is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

SIRRINV001 Receive and handle retail stock

Modification History

Not applicable.

Application

This unit describes the performance outcomes, skills and knowledge required to receive and store retail stock. It requires the ability to check stock quality and quantity against order requirements; store or present stock correctly; and maintain cleanliness of stock-handling areas.

This unit applies to all retail sectors and business sizes from large format stores to small independents. It applies to frontline personnel who have limited autonomy and work under close supervision and guidance of others in frontline operational roles. However; in smaller retail businesses, senior personnel also undertake this function.

No occupational licensing, certification or specific legislative requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Inventory

Unit Sector

Retail

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1. Maintain stock handling and storage

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1.Maintain cleanliness of stock handling and storage areas.
- 1.2.Ensure correct environmental conditions for storage of

- areas. perishable and other stock to prevent loss or damage as required.
- 1.3. Remove and dispose of waste to minimise safety risks and environmental impacts.
 - 1.4. Report hazards and potential hazards to relevant personnel to minimise safety risks.
2. Accept stock delivery.
 - 2.1. Check incoming stock quantities against order documentation.
 - 2.2. Inspect incoming stock quality, and accurately report quality issues or damage to relevant personnel.
 - 2.3. Record stock delivery, and report discrepancies with orders as required.
 - 2.4. Unpack and handle stock according to manufacturer instructions and safe manual handling techniques to avoid personal health risk and stock damage.
 - 2.5. Store or display stock promptly in designated location.
 3. Replenish stock levels.
 - 3.1. Rotate, replenish and present stock according to organisational requirements for stock levels.
 - 3.2. Record stock waste or shrinkage according to organisational procedures.
 - 3.3. Maintain optimal stock levels on retail shop floor.

Foundation Skills

Foundation skills essential to performance in this unit, but not explicit in the performance criteria are listed here, along with a brief context statement.

- Reading skills to:
- interpret:
 - plain English documents that outline organisational policies and procedures for stock control
 - basic order and delivery documentation and stock labels.
- Numeracy skills to:
- calculate stock levels.
- Planning and organising skills to:
- complete stock control activities in a logical and time efficient sequence.
- Technology skills to:
- use stock control technology to aid stock control processes.

Unit Mapping Information

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ca051b1b-5101-4ec2-ac1c-49699303188d>

Assessment Requirements for SIRRINV001 Receive and handle retail stock

Modification History

Not applicable.

Performance Evidence

Evidence of the ability to complete tasks outlined in elements and performance criteria of this unit in the context of the job role, and:

- follow organisational policies and procedures, safe work practices and manufacturer instructions to perform each of the following stock control procedures:
 - receive and process incoming stock
 - store retail stock
 - maintain retail stock levels
 - maintain stock delivery records
- follow organisational stock control policies and procedures to process stock in each of the following situations:
 - stock quality is poor
 - stock quantity errors
 - incorrect stock is delivered
- maintain stock handling and storage areas, according to organisational policies and procedures, when completing the above stock control activities.

Knowledge Evidence

Demonstrated knowledge required to complete the tasks outlined in the elements and performance criteria of this unit:

- principles of stock control procedures:
 - rotation and replenishment
 - product life cycle
- organisational stock control policies and procedures for:
 - receiving stock from suppliers
 - recording incoming stock
 - recording and reporting stock discrepancies and quality issues
 - recording stock waste and shrinkage
 - stock quality standards
 - unpacking, storage and display of stock
 - damaged or missing stock

- key features of retail products that relate to handling and storage:
 - handling techniques to minimise damage
 - general care
 - optimum storage conditions
 - features of damaged or spoiled stock
 - correct disposal methods
- safe manual handling techniques for moving and storing retail stock
- relevant legislation and standards relevant to receiving and storing retail stock.

Assessment Conditions

Skills must be demonstrated in a retail environment. This can be:

- an industry workplace
- a simulated industry environment.

Assessment must ensure use of:

- manufacturer instructions for stock handling and storage
- organisational policies and procedures for stock handling and control
- retail stock display areas
- range of retail stock
- stock control documentation
 - delivery dockets
 - orders
 - reporting documentation
- stock receiving bay or area
- stock storage areas
- assessment activities that allow the individual to:
 - work within commercial speed, timing and productivity
 - manage tasks and contingencies in the context of the job role.

Assessors must satisfy the Standards for Registered Training Organisations' requirements for assessors.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ca051b1b-5101-4ec2-ac1c-49699303188d>

SIRRRTF001 Balance and secure point-of-sale terminal

Modification History

Not applicable.

Application

This unit describes the performance outcomes, skills and knowledge required to balance and reconcile a register or terminal in a retail environment, clear registers, count money, calculate non cash transactions, and reconcile and record takings.

It applies to individuals working in frontline operational roles in a diverse range retail industry sectors and business contexts. They operate with some independence under general supervision and guidance from others, and within established organisational policies and procedures.

No occupational licensing, certification or specific legislative requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Retail Financials

Unit Sector

Retail

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1. Balance and secure takings.

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1.Perform register or terminal balance at designated times.
1.2.Separate cash float from takings prior to balancing and secure takings.

- 1.3. Supply change to register or terminal and accurately record.
 - 1.4. Obtain and interpret register or terminal reading or print-out.
 - 1.5. Secure cash and non cash documents according to organisational procedures.
2. Reconcile takings.
- 2.1. Count cash accurately.
 - 2.2. Calculate non cash documents accurately.
 - 2.3. Determine balance between register or terminal reading and sum of cash and non cash transactions.
 - 2.4. Investigate or report discrepancies between register or terminal reading and sum of cash and non cash transactions to relevant personnel.
 - 2.5. Record takings and file records according to organisational procedures.

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ca051b1b-5101-4ec2-ac1c-49699303188d>

Assessment Requirements for SIRRRTF001 Balance and secure point-of-sale terminal

Modification History

Not applicable.

Performance Evidence

Evidence of the ability to complete tasks outlined in elements and performance criteria of this unit in the context of the job role, and:

- consistently apply organisational policies and procedures to:
 - balance a register or terminal on three occasions with complete accuracy
 - reconcile three different sets of takings comprising both cash and non-cash with complete accuracy
 - identify and resolve three different types of balancing discrepancies
 - process three different types of takings according to organisational policies and procedures.

Knowledge Evidence

Demonstrated knowledge required to complete the tasks outlined in elements and performance criteria of this unit:

- role and importance of the balancing process
- techniques for identifying and resolving discrepancies
- functions and procedures for operating point-of-sale equipment:
 - opening and closing
 - balancing
 - clearance of terminal and transference of tender
 - recording takings
 - consumables required by system
 - security
- cash handling procedures:
 - counting cash
 - handling cash floats
 - change required, denominations of change and tendering change
 - security
- organisational policies and procedures for non-cash transactions:
 - credit cards
 - EFTPOS

- vouchers
- organisational policies and procedures for:
 - exchanges
 - refunds
 - lay-by
 - cash handling
 - cash float
 - operation of point-of-sale equipment
 - register or terminal balance
 - security of cash and non cash transactions.

Assessment Conditions

Skills must be demonstrated in a retail environment. This can be:

- an industry workplace
- a simulated industry environment.

Assessment must ensure access to:

- organisational policies and procedures related to point-of-sale
- point-of-sale equipment and consumables
- financial transaction documentation for non-cash sales
- cash
- assessment activities that allow the individual to work with commercial speed, timing and productivity.

Assessors must satisfy the Standards for Registered Training Organisations' requirements for assessors.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ca051b1b-5101-4ec2-ac1c-49699303188d>

SIRWSLS001 Process product and service data

Modification History

Not applicable.

Application

This unit describes the performance outcomes, skills and knowledge required to use business technology to maintain and process business to business sales, customer service and related product data.

This unit applies to sales and administrative staff who work under supervision and within established administration policies and procedures.

No occupational licensing, certification or specific legislative requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Sales

Unit Sector

Wholesale

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1. Follow data processing procedures.

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1.Source and report product and service data using features of business technology and systems.
- 1.2.Store, retrieve and relay data according to business technology and information management systems.
- 1.3.Process product and service data according to organisational

- policies and procedures for confidentiality, security and systems access.
2. Monitor customer sales.
 - 2.1. Monitor product mix for each customer and identify potential add-on sales.
 - 2.2. Access and interpret customer sales figures and identify success of current sales and supply targets.
 - 2.3. Obtain and enter information affecting future forecasts into database in an accurate and timely manner.
 - 2.4. Use organisational technologies to gather data from the field to expedite sales and provide real time feedback to customers.
 3. Maintain product database.
 - 3.1. Maintain accurate and current details of products and services in product database.
 - 3.2. Collect and correctly process latest data.
 - 3.3. Follow security procedures for access to database.
 - 3.4. Build and maintain data records.
 - 3.5. Identify and resolve data discrepancies and refer complex issues to relevant personnel.
 - 3.6. Collect product or service information for reporting purposes, using appropriate technology.
 - 3.7. Generate accurate and complete reports in line with business requirements.
 4. Determine customer needs from data.
 - 4.1. Establish volume of products purchased by individual customers and use data to anticipate future requirements and preferences.
 - 4.2. Provide timely and accurate reports to customers that can enhance decision-making on provision of products and services.

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ca051b1b-5101-4ec2-ac1c-49699303188d>

Assessment Requirements for SIRWSLS001 Process product and service data

Modification History

Not applicable.

Performance Evidence

Evidence of the ability to complete tasks outlined in elements and performance criteria of this unit in the context of the job role, and:

- use business technology and systems according to organisational policies and procedures to:
 - establish and report on the sales activity and potential future needs of three different business customers
 - accurately update three different types of information in the business system or product database
 - generate three different types of reports from the business system.

Knowledge Evidence

Demonstrated knowledge required to complete the tasks outlined in elements and performance criteria of this unit:

- organisational policies and procedures for:
 - data processing – input and retrieval
 - data security, storage and privacy
 - databased maintenance
 - sales monitoring
 - system reporting
 - evaluation of product and service performance
 - reporting mechanisms
 - supply and distribution of products or services
 - use and maintenance of customer and sales data
- work health and safety (WHS) requirements for use of office equipment
- different types of product and service data
- different types of customers, and product and services offered
- factors determining customer preferences
- purpose, range and use of sales system reports.

Assessment Conditions

Skills must be demonstrated in a wholesale environment. This can be:

- an industry workplace
- a simulated industry environment.

Assessment must ensure access to:

- a computerised business sales system and associated documentation, product information and customer records
- organisational policies and procedures for sales system administration.

Assessors must satisfy the Standards for Registered Training Organisations' requirements for assessors.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ca051b1b-5101-4ec2-ac1c-49699303188d>

SIRXCEG003 Build customer relationships and loyalty

Modification History

Not applicable.

Application

This unit describes the performance outcomes, skills and knowledge required to build customer relationships and foster customer loyalty.

It applies to individuals working in frontline customer service roles in a diverse range of industry sectors and business contexts. They operate with independence and under limited supervision and guidance from others, and within established organisational policies and procedures.

No occupational licensing, certification or specific legislative requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Customer Engagement

Unit Sector

Cross-Sector

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1. Develop relationships with customers.

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1. Provide personalised service to customers in a professional manner that promotes repeat business.
- 1.2. Identify repeat business and acknowledge customer return.
- 1.3. Provide tailored recommendations for products and services

- based on known individual customer needs.
2. Generate customer loyalty.
 - 2.1. Convert customers to brand advocates through exemplary customer service.
 - 2.2. Inform customers of benefits associated with promotions and loyalty programs as required.
 - 2.3. Identify trends in customer demands for products and services and communicate with relevant personnel to ensure availability.
 3. Deal with escalated customer complaints.
 - 3.1. Clarify information regarding escalated customer complaints referred from team members.
 - 3.2. Take action to pacify customer maintaining a calm and professional manner.
 - 3.3. Identify source of customer dissatisfaction and seek appropriate solutions in consultation with the customer.
 - 3.4. Ensure the customer is satisfied with solutions and offer compensation in line with level of responsibility.

Foundation Skills

Foundation skills essential to performance in this unit, but not explicit in the performance criteria are listed here, along with a brief context statement.

SKILLS	DESCRIPTION
Reading skills to:	<ul style="list-style-type: none"> • interpret plain English documents that outline organisational policies and procedures relevant to customer service.
Initiative and enterprise skills to:	<ul style="list-style-type: none"> • identify and act on opportunities to enhance a customer's experience.

Unit Mapping Information

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ca051b1b-5101-4ec2-ac1c-49699303188d>

Assessment Requirements for SIRXCEG003 Build customer relationships and loyalty

Modification History

Not applicable.

Performance Evidence

Evidence of the ability to complete tasks outlined in elements and performance criteria of this unit in the context of the job role, and:

- provide current, accurate and relevant information and assistance to four different customers regarding the following to build customer brand loyalty:
 - promotional activities
 - products and services
 - brand or business customer benefits
- identify trends in customer purchasing patterns and make recommendations that enhance customer service and loyalty
- take appropriate action to resolve two escalated customer complaints.

Knowledge Evidence

Demonstrated knowledge required to complete the tasks outlined in elements and performance criteria of this unit:

- techniques for:
 - providing personalised extemporaneous customer service
 - anticipating customer preferences, needs and expectations throughout the service experience
 - building customer loyalty
 - resolving escalated customer complaints
 - pacifying dissatisfied customers
- commercial benefits of building customer relationships and loyalty
- industry and organisational:
 - professional service standards
 - attitudes and attributes expected when engaging with customers
 - different customer service needs and expectations
 - types of customer benefits
 - essential features and use of customer databases
- key aspects of Australian consumer and privacy law as relevant to customer interactions.

Assessment Conditions

Skills must be demonstrated in a services industry environment. This can be:

- an industry workplace
- a simulated industry environment.

Assessment must ensure access to:

- relevant documentation:
 - industry and organisational:
 - professional service standards
 - attitudes and attributes expected when engaging with customers
 - different customer service needs and expectations
 - types of customer benefits
- current plain English regulatory documents distributed by government regulators for:
 - Australian Consumer Law
 - privacy law
- customers; these can be:
 - individuals in an industry workplace, or
 - individuals who participate in role plays or simulated activities, set up for the purpose of assessment, in a simulated industry environment.

Assessors must satisfy the Standards for Registered Training Organisations' requirements for assessors.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ca051b1b-5101-4ec2-ac1c-49699303188d>

SIRXCEG005 Maintain business to business relationships

Modification History

Not applicable.

Application

This unit describes the performance outcomes, skills and knowledge required to develop and maintain relationships with business customers by identifying customer needs and improving outcomes.

It applies to individuals working in customer service roles in a diverse range of wholesale businesses. They operate with independence and under limited supervision and guidance from others, and within established organisational policies and procedures.

No occupational licensing, certification or specific legislative requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Customer Engagement

Unit Sector

Cross-Sector

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1. Maintain contact with business customers.

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1. Confirm relevant contact personnel for each business or account customer.
- 1.2. Document and maintain currency of contact details.
- 1.3. Participate in, and contribute to, team activities to

- provide services to business customers.
- 1.4. Identify and build external relationships to improve supply chain efficiency.
 - 1.5. Maintain business customer contact according to organisational policies and procedures.
2. Identify business customer needs.
 - 2.1. Confirm the mechanisms to identify business customer needs.
 - 2.2. Consult relevant customer contacts to review their business needs.
 - 2.3. Review current business and promotional activities, and determine future needs for individual customers.
 - 2.4. Outline and confirm trading terms for specific business customers.
 - 2.5. Confirm and apply organisational pricing policies and procedures.
 - 2.6. Process information about business using the latest forecasts of current and future trends.
 3. Improve business customer outcomes and business relationships.
 - 3.1. Report, promote and advocate for the needs of business customers and end consumers within the organisation.
 - 3.2. Identify and use quality assurance and compliance procedures to qualify and quantify business customer needs.
 - 3.3. Identify and discuss ideas about improving sales service and performance with colleagues and customers
 - 3.4. Ensure the standards of quality required to meet business customer service needs and expectations are met.
 - 3.5. Recognise deficiencies in service provided to business customers and rectify to customer satisfaction in line with own level of responsibility.
 - 3.6. Anticipate future needs of business customers and plan and document activities accordingly.
 - 3.7. Provide regular, effective and targeted feedback to business customers regarding services and the value that is provided.

Foundation Skills

Foundation skills essential to performance in this unit, but not explicit in the performance criteria are listed here, along with a brief context statement.

SKILLS

DESCRIPTION

Technology skills to:

- source information about current and future trends.

Unit Mapping Information

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ca051b1b-5101-4ec2-ac1c-49699303188d>

Assessment Requirements for SIRXCEG005 Maintain business to business relationships

Modification History

Not applicable.

Performance Evidence

Evidence of the ability to complete tasks outlined in elements and performance criteria of this unit in the context of the job role, and:

- build sustainable relationships with two business customers, and for each customer:
 - identify specific needs
 - determine options to meet needs
 - select and use communication strategies suited to the customer
 - confirm trading terms according to organisational policies and procedures.
 - develop and document activities for improved customer outcomes and relationship.

Knowledge Evidence

Demonstrated knowledge required to complete the tasks outlined in elements and performance criteria of this unit:

- organisational policies and procedures for:
 - building relationships with business customers
 - pricing
- factors that impact business to business relationships
- interpersonal communication techniques that facilitate:
 - building sustainable relationships with business customers
 - consultation on needs
 - negotiation
 - presentation
- sources of information on:
 - product and supply arrangements for customers
 - current and future trends
- different types of promotional activities and their features in a business to business context
- factors that impact trading terms:
 - continuous improvement
 - due diligence requirements
 - infrastructure and capital outlay requirements
 - intellectual property and technology rights

- market position
- organisational systems integration and compatibility
- planning cycles and timing
- risk sharing
- supply chain management
- agreed terms and conditions
- key aspects of legislation that impact sales work in a business-to-business context including Australian Consumer Law.

Assessment Conditions

Skills must be demonstrated in a services industry environment. This can be:

- an industry workplace
- a simulated industry environment.

Assessment must ensure access to:

- sources of product information
- organisational policies and procedures for:
 - building relationships with business customers
 - pricing
- forecasts for current and future market trends
- business customers with different requirements; these can be:
 - individuals in an industry workplace, or
 - individuals who participate in role plays or simulated activities, set up for the purpose of assessment, in a simulated industry environment.

Assessors must satisfy the Standards for Registered Training Organisations' requirements for assessors.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ca051b1b-5101-4ec2-ac1c-49699303188d>

SIRXSL S001 Sell to the retail customer

Modification History

Not applicable.

Application

This unit describes the performance outcomes, skills and knowledge required to deliver quality customer service and sell to retail customers. It requires the ability to determine customer needs, match products and services to their needs, and facilitate a sale.

This unit applies to all retail sectors and business sizes from large format stores to small independents. It applies to retail personnel at all levels who play a role in engaging with customers with the purpose of selling.

No occupational licensing, certification or specific legislative requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Sales

Unit Sector

Cross-Sector

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1. Establish customer needs.

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1. Connect with the customer within designated response times and establish rapport.
- 1.2. Use questioning and active listening to facilitate effective two-way communication.

- 1.3. Observe and determine appropriate level of interaction based on customer verbal and non-verbal cues.
- 1.4. Determine and clarify customer preferences, needs and expectations.
2. Provide advice on products and services.
 - 2.1. Use product and service knowledge to tailor options to specific customer needs, and offer alternatives when product is unavailable.
 - 2.2. Clearly explain and promote product and service features and benefits where relevant.
 - 2.3. Advise on promotional events where relevant.
 - 2.4. Provide additional information to address customer questions and objections.
 - 2.5. Offer comparisons to competitor product or service range as required.
 - 2.6. Collaborate with the customer to determine product or service option most suited to their needs.
 - 2.7. Take opportunities to upsell and cross sell products and services that enhance customer request and maximise profitability of sale.
3. Facilitate the sale of products and services.
 - 3.1. Select and use appropriate techniques to close sale.
 - 3.2. Direct the customer to designated point-of-sale and process sale, as required, according to organisational procedures.
 - 3.3. Farewell customer on leaving, and invite to return.
 - 3.4. Provide any required after sales service according to organisational procedures.

Foundation Skills

Foundation skills essential to performance in this unit, but not explicit in the performance criteria are listed here, along with a brief context statement.

- Reading skills to:
- interpret:
 - detailed in-house and supplier product information documents
 - plain English documents that outline organisational customer service policy and procedures.
- Numeracy skills to:
- interpret basic fee information from in-house documents and complete basic pricing calculations.
- Problem-solving skills to:
- respond to customer objections and provide appropriate solutions to satisfy customer needs.
- Technology skills to:
- use technologies equipped with search functionality and information systems to source product and service information.

Unit Mapping Information

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ca051b1b-5101-4ec2-ac1c-49699303188d>

Assessment Requirements for SIRXSL001 Sell to the retail customer

Modification History

Not applicable.

Performance Evidence

Evidence of the ability to complete tasks outlined in elements and performance criteria of this unit in the context of the job role, and:

- interact with four different retail customers to initiate and close the sale of different retail products or services
- demonstrate the following during the above customer interactions:
 - appropriate communication
 - establishment and clarification of customer needs, wants and expectations
 - product and/or service knowledge
 - appropriate sales approach to sell benefits and features of products and/or services
 - overcome objections and close sales
 - upsell and/or cross sell additional products and/or services that complement the sale
 - promotion of customer loyalty and repeat sales.

Knowledge Evidence

Demonstrated knowledge required to complete the tasks outlined in elements and performance criteria of this unit:

- appropriate body language for customer service
- basic principles of positive customer service and sales
- open and closed questioning techniques related to the sale of product and services
- verbal and non-verbal cues indicating customer understanding of information
- techniques for effective communication with customers of diverse backgrounds:
 - cultural diversity
 - special needs
- sales techniques:
 - opening techniques
 - recognising buying signals
 - strategies to focus customer on specific products and services
 - selling add-ons and complementary products
 - overcoming customer objections
 - closing techniques

- primary components of consumer protection laws that relate to selling products and services, especially organisational responsibility for supplying products and services as described or substituting suitable products and services when unable
- primary components of privacy law, and actions that retail business must take to protect privacy of customer information
- for the specific retail sector:
 - professional service standards and protocols for retail industry personnel
 - attitudes and attributes expected by the retail industry to work with customers
 - different customer service needs and expectations
- for the particular retail organisation:
 - product and service knowledge:
 - product and service range offering
 - product specifications, features and benefits
 - designated response times for providing customer service
 - customer service procedures including recording of and storing customer details.

Assessment Conditions

Skills must be demonstrated in a retail environment. This can be:

- an industry workplace
- a simulated industry environment.

Assessment must ensure access to:

- relevant documentation:
 - organisational policies and procedures for:
 - customer service
 - sale of products and services
 - resolving customer complaints
 - collection and storage of customer details
 - organisational product information and price lists
 - supplier brochures, information sheets and price lists
 - promotional activity information
 - current plain English regulatory documents distributed by government regulators for:
 - consumer protection law
 - privacy law
- customers with whom the individual can interact to sell products and services; these can be:
 - individuals in an industry workplace, or
 - individuals who participate in role plays or simulated activities, set up for the purpose of assessment, in a simulated industry environment operated within a training organisation

- assessment activities that allow the individual to:
 - work within commercial speed, timing and productivity
 - manage tasks and contingencies in the context of the job role.

Assessors must satisfy the Standards for Registered Training Organisations' requirements for assessors.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ca051b1b-5101-4ec2-ac1c-49699303188d>

TAEDEL301 Provide work skill instruction

Modification History

Release	Comments
Release 1	This version first released with <i>TAE Training and Education Training Package Version 2.0</i> .

Application

This unit describes the skills and knowledge required to conduct individual and group instruction, demonstrate work skills and assess the success of training and one's own training performance, using existing learning resources in a safe and comfortable learning environment.

It emphasises the training as being driven by the work process and context, and applies to a person working under supervision as a work skill instructor in a wide range of settings not restricted to training organisations,

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Delivery and facilitation

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Organise instruction and demonstration	1.1 Gather information about learner characteristics and learning needs 1.2 Confirm a safe learning environment 1.3 Gather and check instruction, demonstration objectives, and seek assistance if required 1.4 Access and review relevant learning resources and learning

ELEMENT	PERFORMANCE CRITERIA
	<p>materials for suitability and relevance, and seek assistance to interpret the contextual application</p> <p>1.5 Organise access to necessary equipment or physical resources required for instruction and demonstration</p> <p>1.6 Notify learners of details regarding the implementation of the learning program and/or delivery plan</p>
2. Conduct instruction and demonstration	<p>2.1 Use interpersonal skills with learners to establish a safe and comfortable learning environment</p> <p>2.2 Follow the learning program and/or delivery plan to cover all learning objectives</p> <p>2.3 Brief learners on any workplace health and safety (WHS) procedures and requirements prior to, and during, training</p> <p>2.4 Use delivery techniques to structure, pace and enhance learning</p> <p>2.5 Apply coaching techniques to assist learning</p> <p>2.6 Use communication skills to provide information, instruct learners and demonstrate relevant work skills</p> <p>2.7 Provide opportunities for practice during instruction and through work activities</p> <p>2.8 Provide and discuss feedback on learner performance to support learning</p>
3. Check training performance	<p>3.1 Use measures to ensure learners are acquiring, and can use, new technical and generic skills and knowledge</p> <p>3.2 Monitor learner progress and outcomes in consultation with the learner</p> <p>3.3 Review relationship between the trainer/coach and the learner, and adjust to suit learner needs</p>
4. Review personal training performance	<p>4.1 Reflect upon personal performance in providing instruction and demonstration, and document strategies for improvement</p> <p>4.2 Maintain, store and secure learner records, according to organisational and legal requirements</p>

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

Skill	Performance Criteria	Description
Learning	4.1	<ul style="list-style-type: none"> Reflects on practice to improve
Reading	1.1, 1.3, 1.4, 2.2	<ul style="list-style-type: none"> Sources and interprets processes and procedures, learning resources and information relevant to providing a work instruction and delivery
Writing	1.4, 1.6, 2.3, 2.6, 2.8, 3.2, 4.1, 4.2	<ul style="list-style-type: none"> Accurately maintains learner records and documentation appropriate to the learning context and audience
Oral Communication	1.1, 1.6, 2.3, 2.4, 2.6	<ul style="list-style-type: none"> Uses appropriate communication strategies to engage, build rapport, provide instruction, monitor progress and provide feedback to individuals or groups
Interact with others	1.2, 1.3, 2.1, 2.5, 2.8, 3.2	<ul style="list-style-type: none"> Recognises the importance of consultation and negotiation while collaborating to confirm strategy and achieve required outcomes Asks questions in order to clarify understanding, and to provide and seek feedback Builds rapport to establish effective working relationships and to achieve effective outcomes
Get the work done	1.1-1.6, 2.1-2.8, 3.1-3.3, 4.1, 4.2	<ul style="list-style-type: none"> Organises and completes work according to defined requirements, taking responsibility for some decisions and sequencing tasks to achieve efficient outcomes Identifies and responds to potential risks, problems and opportunities for improvement and considers options for different approaches

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
TAEDEL301 Provide work skill instruction	TAEDEL301A Provide work skill instruction	Updated to meet Standards for Training Packages	Equivalent unit

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=35337905-785d-4f93-8777-e9991ad4c6c3>

Assessment Requirements for TAEDEL301 Provide work skill instruction

Modification History

Release	Comments
Release 1	This version first released with <i>TAE Training and Education Training Package Version 2.0</i> .

Performance Evidence

The candidate must show evidence of the ability to complete tasks outlined in the elements and performance criteria of this unit, including:

- carrying out a minimum of three training sessions, involving demonstrating and instructing particular work skills for at least two different individuals or small groups, with each session addressing:
 - different learning objectives
 - a range of delivery techniques and effective communication skills appropriate to the audience.

Knowledge Evidence

The candidate must be able to demonstrate essential knowledge to effectively complete the task outlined in the elements and performance criteria of this unit. This includes knowledge of:

- learner characteristics and needs
- the content and requirements of the relevant learning program, and/or the delivery plan
- the sources and availability of relevant learning resources and learning materials
- the content of relevant learning resources and learning materials
- training techniques that enhance learning, and when to use them
- introductory knowledge of learning principles and learning styles
- key workplace health and safety (WHS) issues in the learning environment, including:
 - roles and responsibilities of key personnel
 - responsibilities of learners
 - relevant policies and procedures, including hazard identification, risk assessment, reporting requirements, safe use of equipment and emergency procedures
 - risk controls for the specific learning environment.

Assessment Conditions

Gather evidence to demonstrate consistent performance in conditions that are safe and replicate the workplace. Conditions must be typical of those experienced in the training and assessment environment and include access to any necessary workplace documents.

Assessors must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=35337905-785d-4f93-8777-e9991ad4c6c3>

TAEDEL311 Provide work skill instruction

Modification History

Release	Comments
Release 1	This version first released with TAE Training and Education Training Package Version 5.0. Supersedes and is equivalent to TAEDEL301 Provide work skill instruction.

Application

This unit describes the skills and knowledge required to conduct individual and small group work skill instruction using existing support materials and demonstration of work skills as a training strategy; and assess the success of training and one's own training performance. It focuses on the training being driven by the work process and context.

The unit applies to a person working under supervision as a work skill instructor in a wide range of settings not restricted to training organisations.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Delivery and facilitation

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Organise instruction and demonstration	1.1 Gather information about learner characteristics and learning needs 1.2 Confirm a safe learning environment 1.3 Prepare simple session plan for work skill instruction and demonstration objectives 1.4 Access and review support materials for their suitability and

ELEMENTS	PERFORMANCE CRITERIA
	relevance 1.5 Organise access to physical support material required for instruction and demonstration 1.6 Notify learners of planned work skill instruction
2. Conduct instruction and demonstration	2.1 Interact with learners to establish a safe and comfortable learning environment 2.2 Brief learners on work health and safety (WHS) procedures and requirements prior to, and during, training 2.3 Follow plan for work skill instruction and cover all learning objectives 2.4 Use facilitation techniques to structure, pace and enhance learning, and explain and demonstrate work skills 2.5 Apply coaching techniques to assist learning 2.6 Use communication techniques to provide information, engage and instruct learners and demonstrate work skills 2.7 Monitor professional relationship with learner, and adjust to suit learner needs 2.8 Provide opportunities for learners to practise the work skill
3. Check training performance	3.1 Use observation and questioning to check learner acquisition and use of new skills and knowledge 3.2 Provide feedback on learner performance to support learning 3.3 Monitor learner progress and outcomes in consultation with the learner
4. Review training performance	4.1 Gather feedback from learners on work skill instruction according to organisational procedures 4.2 Reflect on own practice in providing instruction and demonstration, and identify strategies for improvement 4.3 Maintain, store and secure learner records, according to organisational and legal requirements

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

Skill	Description
Reading	<ul style="list-style-type: none"> Sources and interprets processes and procedures, support materials, and information relevant to providing work instruction

Skill	Description
Writing	<ul style="list-style-type: none"> • Completes required workplace documentation using appropriate language and format
Oral communication	<ul style="list-style-type: none"> • Uses communication techniques to build rapport, monitor progress and provide feedback to learners
Numeracy	<ul style="list-style-type: none"> • Interprets and uses scheduling and sequencing information, and estimates time
Initiative and enterprise	<ul style="list-style-type: none"> • Asks questions to clarify understanding, and to provide and seek feedback • Identifies and responds to potential risks, problems and opportunities for improvement and considers options for different approaches
Planning and organising	<ul style="list-style-type: none"> • Organises and completes work according to defined requirements, taking responsibility for some decisions and sequencing tasks to achieve efficient outcomes
Teamwork	<ul style="list-style-type: none"> • Builds rapport and establishes productive working relationships to achieve learning outcomes

Unit Mapping Information

Supersedes and is equivalent to TAEDEL301 Provide work skill instruction.

Links

Companion Volume Implementation Guide is found on VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=35337905-785d-4f93-8777-e9991ad4c6c3>

Assessment Requirements for TAEDEL311 Provide work skill instruction

Modification History

Release	Comments
Release 1	This version first released with TAE Training and Education Training Package Version 5.0. Supersedes and is equivalent to TAEDEL301 Provide work skill instruction.

Performance Evidence

The individual must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- provide at least 3 work skill instruction sessions, with each session being of at least 30 minutes duration and involving:
 - a different work skill for each session
 - delivery of at least 1 session to an individual learner
 - delivery of at least 1 session to a small group of at least 2 learners.

Knowledge Evidence

The individual must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- organisational procedures for gathering feedback from learners on work skill instruction
- learner characteristics and needs
- information included in a plan for work skill instruction:
 - session plan, consisting of:
 - session objectives
 - content to be covered
 - delivery approach to be used
 - task breakdown
 - timing
- sources, availability and content of suitable support materials
- training facilitation and coaching techniques to support adult learning relevant to work skill instruction, and when to use them
- overview of adult learning principles and their application to work skill instruction

- key steps for practising self-reflection on own work skill instruction to identify opportunities for improvement
- sources of assistance relating to contextualising support materials to the workplace
- work health and safety (WHS) issues in the learning environment, including:
 - roles and responsibilities of key personnel
 - responsibilities of learners
 - WHS policies and procedures, including those relating to:
 - hazard and risk identification
 - safe use of equipment and emergency procedures
 - risk controls for the specific learning environment.

Assessment Conditions

Skills in this unit must be demonstrated in a real or simulated vocational education and training environment. Evidence gathered for assessment may include that collected in real time or via a submitted recording.

This includes access to:

- learners requiring work skill instruction
- support materials relating to the work skill instruction sessions described in performance evidence
- access to information about the plan for work skill instruction, including session plan, task breakdown and timing.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=35337905-785d-4f93-8777-e9991ad4c6c3>

TAEDEL411 Facilitate vocational training

Modification History

Release	Comments
Release 1	This version first released with TAE Training and Education Training Package Version 5.0. Supersedes and is not equivalent to TAEDEL401 Plan, organise and deliver group-based learning.

Application

This unit describes the skills and knowledge required to plan, prepare for and facilitate the vocational training of both individual learners and groups of learners via a face-to-face, in-person delivery mode. It includes customising and using existing session plans and learning resources, using these plans to facilitate training, and reviewing own practice.

The unit applies to entry-level vocational education and training (VET) teachers and trainers who use training and technical skills to deliver training based on a product that is nationally recognised or aligned with other recognised frameworks.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Delivery and facilitation

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare for vocational training	1.1 Identify purpose, target group, learning resources and requirements for training from the training and assessment strategy 1.2 Access nationally recognised units of competency or other

ELEMENTS	PERFORMANCE CRITERIA
	<p>performance benchmarks and identify required standard of performance</p> <p>1.3 Arrange and review delivery plan, session plans and learning resources according to legislative and regulatory requirements</p> <p>1.4 Identify and organise required support for foundation skill and learning needs within scope of own role; and make necessary adjustments and/or access specialist support where required</p> <p>1.5 Identify and assess safety constraints and risks to training in line with work health and safety (WHS) policies and procedures</p>
2. Customise vocational training	<p>2.1 Review information about learner characteristics and needs and their work context to identify customisation needs</p> <p>2.2 Customise session plans and learning resources to suit learners and their context</p> <p>2.3 Record amendments according to organisational procedures</p>
3. Deliver face-to-face vocational training	<p>3.1 Prepare learning environment and check equipment prior to use according to organisational requirements</p> <p>3.2 Facilitate face-to-face training sessions according to session plans</p> <p>3.3 Use training facilitation techniques and activities that support and engage individual learners and groups of learners</p> <p>3.4 Present information to individuals and groups using presentation techniques and aids</p> <p>3.5 Identify and monitor health and safety hazards and risks, and implement and adjust risk controls to address risks during training</p> <p>3.6 Maintain and store training records according to organisational requirements</p>
4. Support individual and group learning	<p>4.1 Monitor and document learner progress according to organisational procedures</p> <p>4.2 Monitor individual and group learning to identify learner difficulties and training challenges</p> <p>4.3 Adapt session plans and adjust training facilitation techniques to respond to diverse learner needs and maintain learner motivation, engagement and commitment</p>
5. Review vocational training practice	<p>5.1 Seek learner feedback according to organisational procedures</p> <p>5.2 Analyse own practice of facilitating training and identify opportunities for improvements</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

Skill	Description
Digital literacy	<ul style="list-style-type: none"> Uses main features and functions of digital tools and electronic applications required in own role to access, organise, analyse, exchange and display information
Reading	<ul style="list-style-type: none"> Accesses, reads and interprets documentation relevant to the learning context, including planning documents, learning materials, policies and procedures relevant to the context
Writing	<ul style="list-style-type: none"> Develops and maintains documentation in response to required needs
Oral communication	<ul style="list-style-type: none"> Uses communication techniques to build rapport and explore requirements Facilitates training in a style appropriate for both individuals and groups
Numeracy	<ul style="list-style-type: none"> Interprets and uses scheduling and sequencing information, and estimates time and risk
Initiative and enterprise	<ul style="list-style-type: none"> Proactively uses strategies to maintain safe, productive and engaging learning environment Is proactive and solutions-focused in responding to learner needs during training delivery
Problem solving	<ul style="list-style-type: none"> Identifies and responds to problems and opportunities for improvement and considers options for different approaches
Self-management	<ul style="list-style-type: none"> Recognises and follows organisational procedures relevant to own role Organises and completes work according to defined requirements, taking responsibility for decisions and sequencing tasks to achieve efficient outcomes

Unit Mapping Information

Supersedes and is not equivalent to TAEDEL401 Plan, organise and deliver group-based learning.

Links

Companion Volume Implementation Guide is found on VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=35337905-785d-4f93-8777-e9991ad4c6c3>

Assessment Requirements for TAEDEL411 Facilitate vocational training

Modification History

Release	Comments
Release 1	This version first released with TAE Training and Education Training Package Version 5.0. Supersedes and is not equivalent to TAEDEL401 Plan, organise and deliver group-based learning.

Performance Evidence

The individual must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- facilitate the following face-to-face, in-person, training sessions based on a training product that is nationally recognised or aligned with other recognised frameworks:
 - a series of 3 sequential group training sessions of at least 30 minutes duration each to 1 group of learners, where the group must consist of at least 4 learners
 - 2 different individual training sessions of at least 30 minutes duration each to a learner who is not part of the above group.

In the course of each of the above, the individual must:

- deliver all sessions in their entirety, from start to finish
- facilitate learner acquisition of skills and knowledge and learner independence
- monitor learner engagement and participation
- identify and respond to foundation skill needs.

Knowledge Evidence

The individual must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- legislative and vocational education and training (VET) regulatory requirements relating to the facilitation of individual and group-based vocational training based on products that are nationally recognised or aligned with other recognised frameworks
- organisational requirements and procedures for facilitating individual and group-based vocational training, including requirements for:

- using training and assessment strategies
- behaviour management
- record keeping
- risk identification, assessment and control
- learner support
- professional development
- processes for interpreting nationally recognised training products to identify the standard of performance required and:
 - structure, content and application of products relevant to assessing competence, and how they are addressed in assessment tasks and processes
 - requirements of foundation skills: language, literacy, numeracy, digital literacy and employability skills
- dimensions of competency and how they guide training practices
- strategies and processes for identifying and organising foundation skills support for learners, including language, literacy, numeracy, digital literacy and employability skills, including use of current authorised Australian foundation skills frameworks
- learning theories and adult learning principles relevant to the learning cohort, and their application to the facilitation of individual and group-based vocational training
- training practices, methods and techniques for facilitating individual and group-based vocational training and supporting effective learning, including those that are within scope of own role and that:
 - promote learner engagement
 - build safe and inclusive learning environments, including:
 - providing learners with information
 - using appropriate and inclusive language
 - using diverse resources and methods
 - addressing cultural sensitivity, safety and equity
 - reflect learner characteristics, needs and behaviours, including:
 - cultural and social practices
 - mental health and wellness considerations
 - neurodiversity
 - identify and support learners with diverse and additional learning needs, including:
 - behaviours that learners with learner difficulties may exhibit
 - reasons that some learners may require additional support
 - support strategies for different types of difficulty or need
 - provide opportunities to review and reflect on own practice
 - build skills in presenting and in applying presentation aids
- techniques for customising session plans and learning resources to suit learner characteristics and needs
- work health and safety (WHS) responsibilities relating to training, including:
 - common hazards and risks

- risk controls.

Assessment Conditions

Skills in this unit must be demonstrated in a real or simulated face-to-face vocational education and training environment. Evidence gathered for assessment may include that collected in real time or via a submitted recording that demonstrates both delivery and learner engagement.

This includes access to:

- learners requiring face-to-face, in-person vocational training
- organisational procedures for facilitating individual and group-based vocational training
- training and assessment strategies for the required training
- session plans and learning resources that address the requirements of a training product that is nationally recognised or aligned with other recognised frameworks.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=35337905-785d-4f93-8777-e9991ad4c6c3>

TAEDEL412 Facilitate workplace-based learning

Modification History

Release	Comments
Release 1	This version first released with TAE Training and Education Training Package Version 5.0. Supersedes and is equivalent to TAEDEL402 Plan, organise and facilitate learning in the workplace.

Application

This unit describes the skills and knowledge required to prepare for, plan and facilitate workplace-based learning for learners in the workplace. It includes customising and implementing existing learning plans and resources based on products that are nationally recognised or aligned with other recognised frameworks, and reviewing own practice.

The unit applies to entry-level vocational education and training (VET) teachers and trainers who use facilitation and technical skills to facilitate learning in the workplace based on products that are nationally recognised or aligned with other recognised frameworks.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Delivery and facilitation

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to facilitate workplace-based learning	1.1 Clarify and confirm workplace-based learning objectives and scope 1.2 Analyse position descriptions and work routines to determine that learning objectives can safely be met in the

ELEMENTS	PERFORMANCE CRITERIA
	workplace-based learning 1.3 Establish workplace environment for learning 1.4 Identify personnel to be involved in the workplace-based learning and their job roles and responsibilities.
2. Develop plan for workplace-based learning	2.1 Arrange for integration and monitoring of workplace-based learning activities 2.2 Identify phases and duration for learners' work-based learning 2.3 Identify need for support personnel within work-based learning 2.4 Draft plan for workplace-based learning that meets learning objectives, uses a range of learning opportunities, and outlines required safety arrangements 2.5 Obtain agreement from required personnel to finalise and implement the plan for workplace-based learning
3. Establish the learning relationship	3.1 Conduct initial meeting with learner to commence work-based learning and explain learning objectives and processes 3.2 Discuss and agree planned learning opportunities and activities according to any regulatory requirements 3.3 Select techniques for facilitating learning in the workplace to meet learners' needs and explain intended approach to learners 3.4 Discuss and organise required support for foundation skill and learning needs within scope of own job role; and access specialist support where required 3.5 Monitor supervisory arrangements appropriate to learners' levels of knowledge, skill and experience, provide support and encouragement, and ensure learners' health and safety
4. Implement workplace-based learning	4.1 Prepare learning environment and check equipment prior to use 4.2 Monitor and address work health and safety (WHS) hazards and risks before and during training 4.3 Oversee learning activities in workplace following the sequence of the workplace-based learning plan 4.4 Implement techniques that facilitate learners' application of skills and knowledge to workplace activities
5. Develop the learning relationship	5.1 Observe learner cues and change approaches where necessary to engage learners and maintain momentum 5.2 Encourage learners to take responsibility for learning and to use self-reflection

ELEMENTS	PERFORMANCE CRITERIA
	5.3 Monitor effectiveness of learning relationship through regular interaction
6. Close and evaluate the workplace-based learning	<p>6.1 Use interpersonal and communication techniques to close the learning relationship</p> <p>6.2 Seek feedback from learners and workplace stakeholders on outcomes achieved and value of the learning relationship</p> <p>6.3 Evaluate effectiveness of workplace-based learning against objectives, and the processes and techniques used</p> <p>6.4 Review and reflect on own facilitation of workplace-based learning and identify areas for improvement</p> <p>6.5 Recommend improvements to own workplace-based learning practice based on review process</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

Skill	Description
Digital literacy	<ul style="list-style-type: none"> • Uses main features and functions of digital tools and electronic applications required in own role to access and exchange information
Reading	<ul style="list-style-type: none"> • Accesses and interprets compliance information, contractual information, WHS information, and documents relevant to learning in the workplace
Writing	<ul style="list-style-type: none"> • Maintains documentation relevant to workplace-based learning according to organisational and workplace requirements
Oral communication	<ul style="list-style-type: none"> • Uses oral communication techniques to identify needs, build rapport, agree on learning, facilitate learning and monitor practice • Selects appropriate vocabulary adjusting language, tone and pace to promote effective interactions, and to build learner engagement • Asks questions to clarify understanding, and seeks feedback and further information
Numeracy	<ul style="list-style-type: none"> • Interprets and uses scheduling and sequencing information, and estimates time and risk
Planning and organising	<ul style="list-style-type: none"> • Organises and completes work according to defined requirements, taking responsibility for decisions and sequencing tasks to achieve efficient outcomes
Problem solving	<ul style="list-style-type: none"> • Identifies and responds to problems and opportunities for improvement, considering options for different approaches

Skill	Description
	<ul style="list-style-type: none"> • Uses systematic, analytical processes in complex, routine and non-routine situations, gathering information, and identifying and evaluating options based on organisational needs
Self-management	<ul style="list-style-type: none"> • Follows organisational protocols, policies and procedures in the management of records • Recognises and responds to contractual and ethical requirements associated with own role
Teamwork	<ul style="list-style-type: none"> • Cooperates and collaborates with others as part of routine activities to achieve team results, and to confirm outcomes meet requirements

Unit Mapping Information

Supersedes and is equivalent to TAEDEL402 Plan, organise and facilitate learning in the workplace.

Links

Companion Volume Implementation Guide is found on VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=35337905-785d-4f93-8777-e9991ad4c6c3>

Assessment Requirements for TAEDEL412 Facilitate workplace-based learning

Modification History

Release	Comments
Release 1	This version first released with TAE Training and Education Training Package Version 5.0. Supersedes and is equivalent to TAEDEL402 Plan, organise and facilitate learning in the workplace.

Performance Evidence

The individual must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- develop a workplace-based learning plan for at least 3 different learners, with each plan incorporating activities sequenced to ensure safe and effective learning that leads to the required standard of work performance
- facilitate workplace-based learning for at least 1 of the above learners using products that are nationally recognised or aligned with other recognised frameworks on at least 3 different occasions, where each occasion must:
 - be of at least 30 minutes' duration
 - address a different performance outcome from the workplace-based learning plan.

In the course of the above, the individual must:

- demonstrate communication skills to build rapport with the learners
- liaise with required workplace personnel.

Knowledge Evidence

The individual must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- regulatory requirements relating to facilitating learning in the workplace
- organisational procedures relating to facilitating learning in the workplace
- systems for identifying skill development needs in the workplace
- key components of a workplace learning plan, including:
 - learning activities and objectives
 - required safety arrangements

- dimensions of competency and how they guide workplace-based learning practices
- strategies and processes for identifying and organising foundation skills support for learners, including language, literacy, numeracy, digital literacy and employability skills, including use of current authorised Australian foundation skills frameworks
- facilitation techniques appropriate to facilitating learning in the workplace, and strategies for encouraging, including and engaging those who learn in different ways, including:
 - demonstration
 - instruction
 - questioning
 - coaching
 - supervised practice
- strategies and techniques for engaging and liaising with other workplace stakeholders
- types of workplace constraints and distractions and how to manage them
- learning theories and adult learning principles and their application to facilitating learning in the workplace
- strategies and techniques for identifying and supporting workplace-based learners with additional learning needs, including:
 - reasons that some learners may require additional support
 - support strategies for different types of need
- evaluation, review and reflection techniques
- workplace training pathways, including apprenticeships and traineeships
- work health and safety (WHS) responsibilities relating to workplace-based learning, including supervision and support.

Assessment Conditions

Skills in this unit must be demonstrated in a real or simulated workplace environment. Evidence gathered for assessment may include that collected in real time or via a submitted recording.

This includes access to:

- learners requiring workplace-based learning
- organisational procedures for facilitating workplace-based learning of nationally recognised training products.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume Implementation Guide is found on VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=35337905-785d-4f93-8777-e9991ad4c6c3>

TAEDEL414 Mentor in the workplace

Modification History

Release	Comments
Release 1	This version first released with TAE Training and Education Training Package Version 5.0. Supersedes and is equivalent to TAEDEL404 Mentor in the workplace.

Application

This unit describes the skills and knowledge required to establish and develop a professional mentoring relationship with an individual in a workplace. It includes the skills and knowledge to plan and prepare for the mentoring, and implement strategies suited to the mentee, the workplace and the mentoring relationship.

The unit applies to workplace supervisors or other work colleagues who work under limited supervision and have responsibility for mentoring individuals in the workplace. This may include, but is not limited to, those who mentor an apprentice or trainee employed by, or undertaking a work placement within, an organisation.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Delivery and facilitation

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare for mentoring relationship	1.1 Identify scope and boundaries of the mentoring relationship according to organisational procedures 1.2 Develop and document mentoring plan according to organisational requirements

ELEMENTS	PERFORMANCE CRITERIA
	1.3 Establish ground rules and negotiate realistic expectations with the mentee 1.4 Establish and maintain confidentiality of the mentoring relationship according to legislative requirements and organisational policies and procedures
2. Facilitate mentoring relationship	2.1 Undertake activities intended to develop mentee's confidence and trust in the mentoring relationship 2.2 Share personal experiences and knowledge with mentee according to agreed objectives 2.3 Support mentee to develop and use skills in problem solving and decision making 2.4 Use personal and professional networks to assist the mentee 2.5 Provide information, and guidance to enhance engagement in the workplace 2.6 Use techniques for resolving differences without damaging the mentoring relationship, and obtain assistance according to organisational procedures
3. Monitor mentoring relationship	3.1 Provide planning assistance and guidance as requested by the mentee in a form and style to suit their requirements 3.2 Provide feedback to the mentee on progress towards achieving the expectations and goals of the mentoring process 3.3 Recognise and discuss changes in the mentoring relationship with stakeholders 3.4 Negotiate and manage closure of the mentoring arrangement
4. Review mentoring	4.1 Establish and discuss benefits gained from the mentoring process 4.2 Reflect on and articulate the personal benefits gained from providing mentoring 4.3 Identify and report the outcomes of the mentoring arrangement and the benefits to the organisation according to organisational procedures to improve the mentoring system or program

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

Skill	Description
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Skill	Description
Digital literacy	<ul style="list-style-type: none"> • Uses main features and functions of digital tools and electronic applications required in own role to access and exchange information
Reading	<ul style="list-style-type: none"> • Sources and interprets texts relevant to mentoring context, including organisational policies and learner information
Writing	<ul style="list-style-type: none"> • Develops content and documents information relevant to mentoring plan
Oral communication	<ul style="list-style-type: none"> • Uses appropriate communication techniques to: <ul style="list-style-type: none"> • build rapport, trust and engagement • provide guidance and feedback
Problem solving	<ul style="list-style-type: none"> • Identifies and responds to problems, considering options for different approaches
Self-management	<ul style="list-style-type: none"> • Follows legislative requirements, organisational protocols, policies and procedures in workplace mentoring
Teamwork	<ul style="list-style-type: none"> • Collaborates with mentee to build rapport and achieve joint outcomes and effective interaction • Provides mentoring and role modelling to achieve agreed outcomes • Cooperates and consults with mentee to clarify understanding and seek feedback

Unit Mapping Information

Supersedes and is equivalent to TAEDEL404 Mentor in the workplace.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=35337905-785d-4f93-8777-e9991ad4c6c3>

Assessment Requirements for TAEDEL414 Mentor in the workplace

Modification History

Release	Comments
Release 1	This version first released with TAE Training and Education Training Package Version 5.0. Supersedes and is equivalent to TAEDEL404 Mentor in the workplace.

Performance Evidence

The individual must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- negotiate and document an agreed mentoring plan with 1 mentee that sets out clear objectives and a timeframe for the mentoring relationship
- facilitate at least 3 mentoring sessions of at least 30 minutes each with 1 mentee.

Knowledge Evidence

The individual must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- organisational policies and procedures and codes of practice relating to the provision of workplace mentoring, including:
 - equal employment opportunity, equity and diversity responsibilities
 - work health and safety (WHS) responsibilities
- key features of a mentoring plan suited to mentee needs and workplace context
- key methods and strategies for working with a mentee, including:
 - using active listening and open questions to build rapport
 - encouraging self-reflection and confidence
- acceptable behaviour in a mentoring relationship.

Assessment Conditions

Skills in this unit must be demonstrated in a real or simulated workplace environment. Evidence gathered for assessment may include that collected in real time or via a submitted recording.

This includes access to:

- mentoring plan template
- at least 1 mentee.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=35337905-785d-4f93-8777-e9991ad4c6c3>

TAEDES412 Design and develop plans for vocational training

Modification History

Release	Comments
Release 1	This version first released with TAE Training and Education Training Package Version 5.0. Supersedes and is not equivalent to TAEDES401 Design and develop learning programs.

Application

This unit describes the skills and knowledge required to design, develop and document plans for vocational training to be delivered by vocational education and training (VET) teachers and trainers. It involves identifying the objectives and intended outcomes of the training and the characteristics of the target learners, selecting nationally recognised training products, developing the plan for training and individual session plans.

The unit applies to individuals who design training for group learning in face-to-face, online and blended vocational training contexts using nationally recognised products.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Design

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan vocational training	1.1 Identify and collaborate with required stakeholders 1.2 Identify objectives and intended outcomes of the training, intended mode of delivery, and suitable learning environment 1.3 Identify target learners and their characteristics, including

ELEMENTS	PERFORMANCE CRITERIA
	<p>foundation skill and learning needs within scope of own job role</p> <p>1.4 Access specialist support where required according to organisational procedures</p>
2. Design a plan for vocational training	<p>2.1 Access and interpret nationally recognised training products and identify training and assessment requirements</p> <p>2.2 Analyse a unit of competency or skill set, and identify learning components to scaffold</p> <p>2.3 Determine a training sequence for delivery of skills and knowledge to support learner progression</p> <p>2.4 Determine learning activities to support and engage learners in each component</p> <p>2.5 Identify and evaluate suitability of existing learning resources</p> <p>2.6 Estimate duration of training required for each learning component tailored to learner group characteristics</p> <p>2.7 Document overall plan and structure according to legislative and regulatory requirements, organisational procedures and sustainability considerations</p>
3. Develop session plans for vocational training	<p>3.1 Develop session plans that include a range of facilitation techniques to engage learners</p> <p>3.2 Review session plans and ensure required skill and knowledge requirements have been addressed</p> <p>3.3 Document session plans according to organisational policies and procedures</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

Skill	Description
Digital literacy	<ul style="list-style-type: none"> Uses main features and functions of digital tools and electronic applications required in own role to conduct research, and develop and document session plans
Reading	<ul style="list-style-type: none"> Interprets information, including nationally recognised training products, organisational procedures and learning resources
Writing	<ul style="list-style-type: none"> Uses required format, accurate spelling and grammar, and terminology specific to purpose and audience when documenting session plans

Skill	Description
Initiative and enterprise	<ul style="list-style-type: none">• Designs session plans to support a safe, inclusive and supportive learning experience
Planning and organising	<ul style="list-style-type: none">• Organises work according to specific requirements taking responsibility within scope of own role for decisions regarding design of session plans
Self-management	<ul style="list-style-type: none">• Identifies and responds to different design and development options

Unit Mapping Information

Supersedes and is not equivalent to TAEDES401 Design and develop learning programs.

Links

Companion Volume Implementation Guide is found on VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=35337905-785d-4f93-8777-e9991ad4c6c3>

Assessment Requirements for TAEDES412 Design and develop plans for vocational training

Modification History

Release	Comments
Release 1	This version first released with TAE Training and Education Training Package Version 5.0. Supersedes and is not equivalent to TAEDES401 Design and develop learning programs.

Performance Evidence

The individual must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- design, develop and document plans for group learning that:
 - cover at least 2 entire units of competency from a nationally recognised training package or accredited course
 - detail at least 3 consecutive sessions for each different unit of competency
 - are tailored to target learner group characteristics and identified learner needs, including foundation skills
 - include a range of facilitation techniques and checks for learner understanding, including presentation methods, learning activities, and formative assessment activities.

In the course of the above, the individual must:

- document an overall plan for the group learning for each unit of competency
- document the following in the session plans:
 - learning objectives or outcomes
 - presentation methods
 - learning activities
 - formative assessment activities
 - sequence and timing of activities within a session
 - required resources
 - total duration of sessions

- confirm that requirements of units of competency and their assessment requirements have been fully addressed in the overall plan.

Knowledge Evidence

The individual must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- legislative and vocational education and training (VET) regulatory requirements relating to designing and developing plans for vocational training, including:
 - meeting the requirements of nationally recognised training products
 - amount of training to provide to each learner and learner group
 - tailoring the plans to target learner group
- organisational policies and procedures for designing, developing and finalising plans for vocational training, including for consulting with required stakeholders
- purpose and use of National Register of VET (Training.gov.au, or its successor), including to identify changes to nationally recognised training products
- basic instructional design principles relating to designing and developing plans for vocational training
- purposes and key content of plans for vocational training, including logically sequenced learning content that:
 - engages and progresses learners
 - provides a safe and inclusive learning environment
 - covers required skills and knowledge
 - uses resources and that support and engage learners
- key components of training and assessment strategies and how to use them when designing and developing plans for vocational training
- facilitation techniques that support and engage learners and check for learner understanding, including presentation methods, learning activities, and formative assessment activities
- features of different modes of delivery, including face-to-face, online and blended delivery; and how those features are represented in plans for vocational training
- relationship between training and assessment, and implications for designing and developing plans for vocational training
- types of learner characteristics and implications for designing and developing plans for vocational training
- processes for interpreting nationally recognised units of competency to identify the standard of performance required, including for identifying:
 - skill and knowledge requirements in the products, including requirements relating to foundation skills: language, literacy, numeracy, digital literacy and employability skills
 - dimensions of competency and how they guide training practices and planning
- contents of Companion Volume Implementation Guides relating to designing and developing plans for vocational training

- learning theories and adult learning principles relating to designing and developing plans for vocational training
- sustainability matters to consider when designing and developing plans for vocational training.

Assessment Conditions

Skills in this unit must be demonstrated in a real or simulated vocational education and training environment.

This includes access to:

- nationally recognised training products
- organisational procedures and templates for designing and developing plans for vocational training based on nationally recognised products and described in the performance evidence.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=35337905-785d-4f93-8777-e9991ad4c6c3>

TLIA0004 Complete receipt and despatch documentation

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit involves the skills and knowledge required to complete receipt and despatch documentation in accordance with relevant regulations and workplace requirements as part of work activities within the transport and logistics industry.

It includes analysing orders to identify work requirements to fill order, following workplace order documentation processes, and finalising documentation in accordance with workplace procedures and any relevant regulatory requirements.

Work is performed under some supervision generally within a team environment.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Competency Field

A – Handling Cargo/Stock

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Analyse order to identify work requirements to fill order

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Order request documentation is interpreted

- 1.2 Ordered goods are noted and workplace locations identified
 - 1.3 Workplace and goods information is used to organise documentation
 - 1.4 Required schedules for order movement are identified and communicated with relevant personnel
 - 1.5 Special aspects of order are identified and information on required documentation procedures and relevant regulatory requirements are identified, accessed and interpreted
- 2 **Follow workplace order documentation processes**
 - 2.1 Workplace procedures for order receipt and despatch documentation are identified
 - 2.2 Complete receipt and despatch documentation in accordance with workplace procedures and regulatory requirements
- 3 **Finalise documentation**
 - 3.1 Order is checked against schedule and order form
 - 3.2 Workplace records are completed and labels and appropriate documentation are attached in accordance with workplace procedures and regulatory requirements
 - 3.3 Special transportation requirements are identified and conveyed to appropriate personnel
 - 3.4 Required documentation for dangerous goods and hazardous materials is completed in accordance with regulatory requirements

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Unit Mapping Information

This unit replaces and is equivalent to TLIA3015 Complete receipt/despatch documentation.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLIA0004 Complete receipt and despatch documentation

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- applying relevant legislation and workplace procedures
- applying work health and safety (WHS)/occupational health and safety (OHS) procedures
- communicating effectively with others
- completing receipt and despatch documentation
- estimating size, shape and special requirements of goods and loads
- identifying containers and goods coding markings and emergency information panels
- interpreting and following operational instructions, procedures and information
- monitoring work activities in terms of planned schedule
- selecting and using relevant systems.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- documentation requirements for receiving and despatching goods
- focus of operation of work systems, equipment, management and site operating systems for receiving and despatching goods
- housekeeping standards and procedures
- national and international standards, codes and regulations relevant to completing receipt and despatch documentation including:
 - bond requirements
 - dangerous goods codes
 - legislative requirements
 - quarantine requirements
- receipt and despatch documentation anticipated problems and appropriate actions for resolution
- requirements of loads with special conditions including:
 - controlled substances

- dangerous goods
- hazardous materials
- security requirements
- temperature-controlled goods
- site layout and obstacles
- specifications and standards for checking and inspecting received and despatched goods
- WHS/OHS and environmental protection procedures and guidelines
- workplace procedures and policies for completing receipt and despatch documentation.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include:

- relevant and appropriate materials, tools, equipment and personal protective equipment (PPE) currently used in industry
- applicable documentation including legislation, regulations, codes of practice, workplace procedures and operation manuals.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

TLIA0015 Organise receival and despatch operations

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit involves the skills and knowledge required to organise receival and despatch operations in accordance with regulations, codes of practice and workplace requirements in the transport and logistics industry.

It includes planning and organising receival operations, storing received stock, despatching ordered stock and completing documentation and records.

Work is performed under some supervision generally within a team environment.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Competency Field

A – Handling Cargo/Stock

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Plan and organise receival and despatch operations

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Product characteristics and workplace procedures are applied to stock analysis

1.2 Resources are identified to match product characteristics

- 1.3 Timeframes are scheduled to enable receipt or despatch of stock according to workplace procedures
 - 1.4 Work processes are planned to meet specified timeframes
 - 2 **Organise the storage and despatch of stock**
 - 2.1 Employees, equipment and storage areas are allocated and supervised
 - 2.2 Individuals are informed of work requirements and deadlines
 - 2.3 Work processes are monitored to ensure human resources and equipment are maintained at productive levels in accordance with workplace procedures and work health and safety (WHS)/occupational health and safety (OHS) requirements
 - 2.4 Discrepancies in stocks are noted and reported in accordance with workplace procedures
- 3 **Complete documentation**
 - 3.1 Documentation and records regarding receipt and despatch operations are confirmed
 - 3.2 Documentation and records are completed and proofread
 - 3.3 Documentation and records are processed in accordance with workplace procedures and relevant regulatory requirements

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Unit Mapping Information

This unit replaces but is not equivalent to TLIA3018 Organise despatch operations and TLIA3019 Organise receipt operations.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLIA0015 Organise receipt and despatch operations

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- applying contingency plans in accordance with workplace procedures
- applying relevant legislation and workplace procedures
- communicating and working with others
- estimating size, shape and special requirements of goods and loads
- identifying relevant stock and goods coding and labelling
- monitoring work activities in terms of specified deadlines
- operating and selecting equipment in accordance with operating procedures
- reading, interpreting and following relevant instructions, procedures, labels, information and signs
- selecting and using relevant equipment and communications technology
- selecting and using required personal protective equipment (PPE) and conforming to industry and work health and safety (WHS)/occupational health and safety (OHS) standards.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- discrepancies and appropriate actions to resolve
- documentation and record requirements for receipt and despatch operations
- equipment used for organising receipt and despatch operations including safety precautions and procedures
- housekeeping standards and procedures
- operational work systems, equipment, management and site operating systems for organising receipt and despatch operations
- regulations relevant for organising receipt and despatch operations, or other legislative requirements
- relevant WHS/OHS and environmental protection procedures and guidelines
- site layout and obstacles
- workplace procedures and policies for organising receipt and despatch operations.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include:

- relevant and appropriate materials, tools, equipment and PPE currently used in industry
- applicable documentation including legislation, regulations, codes of practice, workplace procedures and operation manuals.

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

TLIA0019 Despatch stock

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit involves the skills and knowledge required to despatch stock.

It includes analysing orders to identify work requirements, following workplace processes to prepare goods for despatch, and completing despatch tasks in accordance with workplace procedures and schedules.

Work is performed under some supervision generally within a team environment.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Competency Field

A – Handling Cargo/Stock

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Review order to identify work requirements

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- | | |
|------------|---|
| 1.1 | Order request, pick request and consignment note are reviewed for completion and despatch instruction |
| 1.2 | Required schedules for despatch are identified |

- | | | |
|----------|---|--|
| | 1.3 | Products ordered are located and verified |
| | 1.4 | Despatch schedule, storage location and product knowledge are used to plan sequence of work |
| | 1.5 | Appropriate material handling equipment is selected within required work health and safety (WHS)/occupational health and safety (OHS) regulations and timeframe for the despatch |
| 2 | Follow workplace processes to prepare goods for despatch | |
| | 2.1 | Goods for despatch are selected and checked against labels and other identification systems |
| | 2.2 | Products are sorted, assembled and consolidated |
| | 2.3 | Orders are secured and placed in storage or despatch zones in accordance with schedule |
| 3 | Complete despatch following workplace procedures and schedules | |
| | 3.1 | Records are completed, and labels and appropriate documentation are attached |
| | 3.2 | Load labels and documentation are checked and loading is organised in accordance with workplace procedures and dangerous goods codes as required |
| | 3.3 | Final check of load labels and despatch and transfer documentation is completed in accordance with workplace procedures and statutory requirements |
| | 3.4 | Goods are confirmed as available for despatch and appropriate reporting is undertaken |

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions can be found in the TLI Transport and Logistics Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to TLIA2021 Despatch stock.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLIA0019 Despatch stock

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- communicating and working effectively with others when organising despatch operations
- completing documentation related to organising despatch operations
- completing tasks within work health and safety (WHS)/occupational health and safety (OHS) guidelines and workplace procedures
- modifying activities depending on operational contingencies, risk situations and environments
- interpreting and following instructions, procedures and labels relevant to organising despatch operations
- selecting and using relevant equipment and communications technology when organising despatch operations
- selecting and using required personal protective equipment (PPE) conforming to industry and WHS/OHS standards.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- documentation and recording requirements for despatch operations
- equipment used during despatch operations and the precautions and procedures that should be followed in its use
- housekeeping standards and procedures
- operational work systems, equipment, management and site operating systems for despatching goods
- potential problems and possible solutions relating to despatching goods
- relevant legislation, regulations, codes of practice and industry guidelines for despatching operations
- relevant WHS/OHS and environmental protection procedures and guidelines
- site layout, obstacles and specialised zones
- workplace procedures and policies for organising despatch operations.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- relevant and appropriate materials, tools, equipment and PPE currently used in industry
- applicable documentation including legislation, regulations, codes of practice, workplace procedures and operation manuals.

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

TLIA0022 Pick and process orders

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit involves the skills and knowledge required to pick and process orders.

It includes identifying workplace order picking processes, policies and procedures; picking and despatching orders; and recording stock levels.

Work is performed under some supervision generally within a team environment.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Competency Field

A – Handling Cargo/Stock

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Identify workplace order picking processes, policies and procedures

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1 Workplace procedures for order picking and related workplace documentation are interpreted
- 1.2 Stock allocation and location systems are identified and used
- 1.3 Stock allocation and location systems for dangerous goods are identified and used in accordance with workplace

- procedures
- 2 Pick and despatch an order**
- 2.1** Appropriate manual handling equipment is selected in accordance with work health and safety (WHS)/occupational health and safety (OHS) regulations and workplace procedures
- 2.2** Work requirements are planned, and appropriate equipment and documentation are sourced
- 2.3** Storage zones are located, and pick path is established
- 2.4** Hazards are identified and control measures are implemented
- 2.5** Appropriate transport unit for orders is selected
- 2.6** Order is picked and arranged to minimise stock damage and to maximise stability in accordance with workplace procedures
- 2.7** Order picks and transport units are located in designated areas
- 2.8** Products are assembled to meet workplace despatch schedules
- 2.9** Orders are consolidated, secured, arranged and placed in storage zones in accordance with despatch schedules
- 3 Complete documentation**
- 3.1** Pick confirmation is completed in accordance with workplace requirements
- 3.2** Stock discrepancies are identified and reported in accordance with workplace procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions can be found in the TLI Transport and Logistics Training Package

Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to TLIA2012 Pick and process orders.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLIA0022 Pick and process orders

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria on at least one occasion and include:

- completing workplace documentation related to picking and processing orders
- estimating the size, shape and special requirements of goods
- identifying and following instructions, procedures, signs and labels relevant to picking and processing orders
- identifying hazards and implementing control measures
- identifying relevant stock and goods coding and labelling, including dangerous goods
- monitoring work activities in terms of planned schedule
- selecting and using appropriate manual handling equipment in accordance with workplace procedures
- selecting and using relevant equipment and communications technology when picking and processing orders
- selecting and using required personal protective equipment (PPE) conforming to industry and work health and safety (WHS)/occupational health and safety (OHS) standards.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria and include knowledge of:

- documentation and recording requirements when picking and processing an order
- equipment used during picking and processing operations and the precautions and procedures to be followed in its use
- housekeeping standards and procedures
- operational work systems, equipment, management and site operating systems for picking and processing orders
- potential problems and possible solutions when picking and processing an order
- relevant legislation, regulations, codes of practice and industry guidelines for picking and processing orders, including relevant bond, quarantine or other legislative requirements
- relevant WHS/OHS and environmental protection procedures and guidelines
- storage zone requirements and obstacles
- transport units including totes, flat racks, cages, pallets, skips, stillages and cartons

- workplace procedures and policies for picking and processing orders.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- relevant and appropriate materials, tools, equipment and PPE currently used in industry
- applicable documentation including legislation, regulations, codes of practice, workplace procedures and operation manuals.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

TLIA0024 Replenish stock

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit involves the skills and knowledge required to replenish stock.

It includes applying product knowledge to participate in stock rotation activities, interpreting and filling replenishment requests, and completing all required stock replenishment tasks.

Work is performed under applicable supervision generally within a team environment.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Competency Field

A – Handling Cargo/Stock

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Participate in stock rotation activities

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- | | |
|------------|--|
| 1.1 | Stock levels are counted against appropriate documentation |
| 1.2 | Stock levels are recorded and reported to relevant personnel |
| 1.3 | Stocks are replenished, adjusted or rotated in |

			accordance with workplace procedures
		1.4	Stock reordering processes are activated in accordance with workplace procedures
		1.5	Routine and non-routine problems with products or storage systems are reported in accordance with workplace procedures
2	Interpret and fill replenishment request	2.1	Order request documentation is interpreted
		2.2	Products ordered are noted and storage locations are identified
		2.3	Storage location and product knowledge is used to plan sequence of work
		2.4	Appropriate material handling equipment is selected in accordance with workplace procedures and timeframes, and work health and safety (WHS)/occupational health and safety (OHS) regulations
		2.5	Required schedules for order movement and despatch or storage are identified and followed
3	Complete stock replenishment	3.1	Products are sorted, assembled and consolidated in the appropriate storage areas
		3.2	Work is checked in accordance with workplace procedures
		3.3	Documentation and records are completed in accordance with workplace procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions can be found in the TLI Transport and Logistics Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to TLIA2020 Replenish stock.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLIA0024 Replenish stock

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria on at least one occasion and include:

- communicating and working effectively with relevant personnel when replenishing stock
- completing and interpreting documentation related to replenishing stock
- interpreting and following instructions, procedures and labels relevant to replenishing stock
- modifying activities depending on operational contingencies, risk situations and environments
- operating and adapting to differences in stock and equipment in accordance with standard operating procedures
- replenishing, adjusting and rotating stock
- reporting and/or rectifying identified problems promptly in accordance with regulatory requirements and workplace procedures
- selecting and using relevant equipment when replenishing stock
- selecting and using required personal protective equipment (PPE) conforming to industry and work health and safety (WHS)/occupational health and safety (OHS) standards
- working systematically with required attention to detail without injury to self or others, or damage to goods or equipment.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria and include knowledge of:

- documentation requirements for replenishing stock
- housekeeping standards and procedures
- material handling procedures
- potential problems and possible solutions relating to replenishing stock
- principles of operation and functions of stock control systems
- relevant legislation, regulations, codes of practice and industry guidelines relating to stock replenishment
- relevant WHS/OHS and environmental protection procedures and guidelines
- site layout and obstacles
- workplace procedures and policies for replenishing stock.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- relevant and appropriate materials, tools, equipment and PPE currently used in industry
- applicable documentation including legislation, regulations, codes of practice, workplace procedures and operation manuals.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

TLID0006 Move materials mechanically using automated equipment

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit involves the skills and knowledge required to move materials mechanically using automated equipment.

It includes selecting appropriate automated mechanical moving equipment, moving materials in accordance with operational requirements, checking condition of materials and completing required records.

Work must be carried out in compliance with relevant work health and safety (WHS)/occupational health and safety (OHS) regulations related to automated mechanical equipment.

Work is performed under limited or minimum supervision.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Competency Field

D – Load Handling

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- | | |
|---|---|
| 1 Identify task and select automated equipment | 1.1 Automated equipment is selected in accordance with workplace procedures, manufacturer specifications and loads characteristics |
| | 1.2 Pre-operational checks are completed and safe working load is determined in accordance with workplace procedures and manufacturer specifications |
| | 1.3 Automated equipment faults are identified and appropriate action taken in accordance with workplace procedures |
| | 1.4 Dangerous goods (DG) and hazardous materials are identified and handled in accordance with workplace procedures |
| 2 Move materials with automated equipment | 2.1 Planned route is determined and work area deemed safe |
| | 2.2 Hazards are identified, risks are assessed and control measures are implemented |
| | 2.3 Materials are moved using automated equipment in accordance with manufacturer specifications and workplace procedures |
| | 2.4 Materials are monitored in accordance with workplace procedures |
| 3 Complete material move and records | 3.1 Materials are inspected in accordance with workplace procedures |
| | 3.2 Records are updated in accordance with workplace procedures |

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Unit Mapping Information

This unit replaces and is equivalent to TLID2013 Move materials mechanically using automated equipment.

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLID0006 Move materials mechanically using automated equipment

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- applying precautions and required action to minimise, control or eliminate identified hazards
- applying workplace procedures when using automated equipment
- following relevant instructions, workplace procedures and signs
- monitoring performance of automated equipment and taking action in accordance with workplace procedures
- reporting automated equipment faults in accordance with workplace procedures
- undertaking operational checks of automated equipment
- using personal protective equipment (PPE) according to workplace procedures.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- characteristics, capabilities and limitations of automated equipment
- hazards when using automated equipment and related risk control measures
- problems that may occur and appropriate actions that can be taken to resolve these problems
- relevant work health and safety (WHS)/occupational health and safety (OHS) procedures and regulations
- workplace policies and procedures for using automated equipment.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational

situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include:

- relevant materials, tools, automated equipment and PPE
- applicable documentation, including workplace procedures, regulations, codes of practice and operation manuals.

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

TLID0007 Operate specialised load shifting equipment

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit involves the skills and knowledge required to operate specialised load shifting equipment in accordance with codes of practice, permits, workplace requirements and relevant regulatory requirements as part of work undertaken in the stevedoring, transport, warehousing and logistics industries.

It includes planning work for current working conditions; using controls and equipment operating systems to manage moving the unit and accessory operations; locating load and identifying load characteristics; moving materials and loads; monitoring and operating controls; and stopping, parking and securing equipment after operation.

Safety checks and equipment tests are performed under limited supervision.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Competency Field

D – Load Handling

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare work for current working conditions

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Hazards are identified, risks assessed and control measures implemented

- 1.2 Traffic flow and work area conditions are assessed and adjusted to ensure safe operation
 - 1.3 Load characteristics are taken into account to ensure appropriate attachments/gear are used to move load in accordance with lift plan
 - 1.4 Working load limit (WLL) is calculated
 - 1.5 Occurrences in work area that may impact on safety and efficiency of operations are reported to relevant personnel in accordance with workplace procedures
- 2 Operate specialised loading equipment**
 - 2.1 Equipment is inspected and configured in accordance with manufacturer specifications, prepared and appropriate attachments are fitted
 - 2.2 Gear and operational levers are checked to ensure they are in neutral position prior to inserting ignition key and starting engine
 - 2.3 Engine is started in accordance with manufacturer guidelines to bring engine up to speed
 - 2.4 Instruments and gauges are monitored to ensure operation is within manufacturer specifications and workplace procedures
 - 2.5 Engine power is managed to ensure efficiency of equipment movement and economy of equipment operations
 - 2.6 Equipment operations are conducted in accordance with manufacturer specified torque range
 - 2.7 Faults or damage to equipment are immediately reported to relevant personnel in accordance with workplace procedures
- 3 Locate load and identify load characteristics**
 - 3.1 Load is located and identified in accordance with workplace procedures
 - 3.2 Loading and unloading plans are followed to ensure efficiency and safety of operations
 - 3.3 Load characteristics are taken into account to ensure appropriate loading and unloading workplace procedures are followed

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Unit Mapping Information

This unit replaces and is equivalent to TLID2012 Operate specialised load shifting equipment.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLID0007 Operate specialised load shifting equipment

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- applying precautions and required actions to minimise, control or eliminate identified hazards
- applying relevant workplace procedures
- checking and replenishing fluids and carrying out lubrication processes during work activities
- communicating effectively with others
- completing relevant documentation
- implementing contingency plans
- modifying activities depending on operational contingencies, risk situations and environments
- monitoring and prioritising work activities in terms of planned schedule
- monitoring performance of specialised load shifting equipment and taking appropriate action as required
- operating and adapting to differences in equipment in accordance with operating procedures
- operating electronic communications equipment to required protocol
- planning own working, predicting consequences and identifying improvements
- reading, interpreting and following relevant instructions, procedures, information and signs
- selecting and using relevant gear and accessories
- selecting and using required personal protective equipment (PPE) conforming to industry and work health and safety (WHS)/occupational health and safety (OHS) standards.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- conveyed material potential for toxicity, reactivity, material grade, type and purpose, including information from relevant safety data sheets (SDS)/material safety data sheets (MSDS) and current Australian Dangerous Goods (ADG) Code documentation
- documentation, record requirements and housekeeping standards, including:
 - relevant permit and licence requirements
 - site layout and obstacles

- operational safety requirements and precautions for specialised load shifting equipment concerned
- operational work systems, equipment, management and site operating systems for operating specialised load shifting equipment
- problems that may occur and appropriate actions that can be taken to resolve these problems
- purpose, characteristics, capabilities, requirements and limitations of specialised load shifting equipment
- relevant regulations for operating specialised load shifting equipment, including current ADG Code and relevant approved storage facilities, quarantine or other legislative requirements
- relevant WHS/OHS and environmental protection procedures and guidelines
- workplace procedures and policies for operating specialised load shifting equipment.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include:

- relevant materials, tools, equipment and PPE
- applicable documentation, including workplace procedures, regulations, codes of practice and operation manuals.

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

TLID0015 Load and unload goods/cargo

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit involves the skills and knowledge required to load and unload goods and/or cargo.

It includes loading and unloading goods and cargo, securing and protecting a load and completing all required documentation in accordance with relevant state or territory roads and traffic authority regulations and permit requirements.

Work is performed under general supervision within a team environment.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Competency Field

D – Load Handling.

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Load and unload goods/cargo

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1 Load characteristics are identified and taken into account when determining appropriate loading and unloading workplace procedures
- 1.2 Job hazards are identified and required actions taken to minimise, control or eliminate identified hazards

- 1.3 Dangerous or hazardous goods are identified and handled in accordance with the current Australian Dangerous Goods (ADG) Code and other relevant regulations and permit requirements, as required
 - 1.4 Load is packed and unpacked to make safe and effective use of available spaces
 - 1.5 Goods and/or cargo are loaded and unloaded in accordance with relevant mass and loading regulations and workplace procedures
 - 1.6 Lifting aids and appliances are selected and used to aid loading procedures in accordance with workplace procedures and safety legislation
 - 1.7 Unloading activities are conducted in a safe and efficient manner taking into account suitable locations, stowage, safe use of equipment and balance of remaining load
 - 1.8 Goods requiring special handling and/or documentation are identified, and workplace procedures are followed
 - 1.9 Relocated material is restacked appropriate for transport method, safe height, weight loading, size and crushability of goods
- 2 Secure, check and protect load**
 - 2.1 Load distribution is checked to ensure it is even, legal and within safe working capacity
 - 2.2 Load is checked to ensure dangerous goods and hazardous substances are appropriately segregated in accordance with current ADG Code
 - 2.3 Load is secured using correct load restraint and protection equipment for different loads, carrying and storage conditions
 - 2.4 Load is protected in accordance with legal and workplace safety requirements
- 3 Complete documentation**
 - 3.1 Load is inspected and checked for security to travel in accordance with relevant regulations and permit requirements and current ADG Code, as required
 - 3.2 All required goods documentation is completed in accordance with workplace requirements including current ADG Code, as required

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions can be found in the TLI Transport and Logistics Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to TLID2004 Load and unload goods/cargo.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLID0015 Load and unload goods/cargo

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria on at least one occasion and include:

- applying relevant legislation and workplace procedures
- applying required action to minimise, control or eliminate identified hazards
- completing relevant documentation
- estimating load size, shape and special requirements and taking appropriate action
- identifying containers and goods coding, Australian Dangerous Goods (ADG) Code and International Maritime Dangerous Goods (IMDG) Code markings and emergency information panels, and taking appropriate action, as required
- implementing contingency plans
- interpreting and following operational instructions and prioritising work
- modifying activities depending on operational contingencies, risk situations and environments
- monitoring work activities in terms of planned schedule
- operating and adapting to differences in cargo and equipment in accordance with operating procedures
- reading and interpreting relevant instructions, procedures, information, signs and labels
- reporting and/or rectifying identified problems promptly in accordance with regulatory requirements and workplace procedures
- selecting and using required personal protective equipment (PPE) conforming to industry and work health safety (WHS)/occupational health and safety (OHS) standards
- working systematically with required attention to detail without injury to self or others, or damage to goods or equipment.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria and include knowledge of:

- chain of responsibility workplace procedures
- housekeeping workplace procedures
- National Transport Commission (NTC) Load Restraint Guide
- problems that may arise when loading and unloading goods and cargo and actions that should be taken to prevent or solve these problems
- relevant Australian and international regulations and codes of practice for handling and transporting dangerous goods and hazardous substances
- relevant Australian Standards and regulations, including state or territory mass and loading regulations
- risks when loading and unloading goods/cargo and related precautions to control risk
- safe work methods for securing load
- security awareness requirements when loading and unloading vehicles and in particular recognising, isolating and reporting suspicious cargo and goods
- site layout and obstacles
- WHS/OHS procedures and guidelines concerning the lifting and movement of loads
- workplace procedures and policies for loading and unloading goods/cargo.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, tools, equipment and PPE currently used in industry
- applicable documentation, including legislation, regulations, NTC Load Restraint Guide, codes of practice, workplace procedures and operation manuals.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

TLID0016 Operate a forklift

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit involves the skills and knowledge required to operate a forklift.

It includes checking forklift condition, driving forklift to fulfil operational requirements, and monitoring and maintaining forklift performance and site conditions in compliance with the relevant state/territory authority licence requirements and regulations, in a variety of operational contexts.

Operation of a forklift is performed under supervision, generally within a team environment.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Competency Field

D – Load Handling.

Unit Sector

Not applicable.

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1 Check forklift condition

1.1 Forklift pre-start is documented and completed prior to commencement of work and relevant to equipment

1.2 Forklift is checked for compliance in accordance with relevant legislation, manufacturer specifications and workplace procedures

- 1.3 Correct personal protective equipment (PPE) is selected and worn relevant to workplace procedures
 - 1.4 Equipment attachments are selected, checked against data plate, secured correctly and appropriate to the task and terrain
 - 1.5 Equipment faults and non-compliances are reported to relevant personnel
- 2 Drive forklift**
- 2.1 Route is planned in accordance with traffic management plans for the worksite
 - 2.2 Forklift is accessed correctly, using three points of contact, seatbelt is correctly worn and fastened, and mirrors and seats are adjusted for safe operation by driver
 - 2.3 Forklift is started, steered, manoeuvred, positioned and stopped in accordance with regulations, manufacturer instructions and workplace procedures
 - 2.4 Engine power is managed to ensure efficiency and performance and to minimise engine and gear damage
 - 2.5 Operational hazards are identified and/or anticipated and avoided or controlled through defensive driving and appropriate hazard control techniques
 - 2.6 Forklift is driven in reverse, maintaining visibility and achieving accurate positioning
- 3 Operate forklift to handle loads**
- 3.1 Lifting task to be undertaken is appropriately planned, and correct lifting truck and allowed attachments selected
 - 3.2 Load is lifted, carried, lowered and set down in accordance with WHS/OHS legislation, manufacturer specifications and workplace procedures
- 4 Monitor site conditions**
- 4.1 Hazards and traffic flow are identified when selecting the most efficient route and appropriate adjustments are made
 - 4.2 Site conditions are continuously monitored to enable safe operations and to ensure no injury to people or damage to property, equipment, loads or facilities occurs
- 5 Monitor and maintain forklift performance**
- 5.1 Performance and efficiency of vehicle operation is monitored during use
 - 5.2 Defective/irregular performance and malfunctions are reported to relevant personnel

5.3 Forklift records are maintained/updated in accordance with workplace procedures and legislative requirements

6 Perform shutdown

6.1 Forklift is parked, shut down, checklist completed and equipment secured in accordance with manufacturer specifications, regulations and workplace procedures

6.2 Defective/irregular performance, malfunctions or maintenance are recorded and reported to relevant personnel

6.3 PPE is stored correctly in accordance with workplace procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions can be found in the TLI Transport and Logistics Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is not equivalent to TLID2010 Operate a forklift.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLID0016 Operate a forklift

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria on at least one occasion and include:

- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant legislation and workplace procedures
- communicating and working effectively with others
- completing relevant documentation
- conducting pre-start and shutdown procedures
- ensuring forklift and its equipment are maintained in terms of service schedule and standard operating procedures (SOPs)
- identifying points of balance and safe lifting positions on a range of loads when operating a forklift, including attachments
- modifying activities depending on operational contingencies, risk situations and environments
- monitoring and prioritising work activities in terms of planned schedule
- monitoring performance of forklift and related equipment, and taking appropriate action, as required
- operating and adapting to differences in equipment in accordance with SOPs
- operating electronic communications equipment to required protocol
- reading, interpreting and following relevant instructions, procedures, information and signs
- reporting and/or rectifying identified problems, faults or malfunctions promptly in accordance with regulatory requirements and workplace procedures
- selecting and using required personal protective equipment (PPE) conforming to industry and work health and safety (WHS)/occupational health and safety (OHS) standards
- working systematically with required attention to detail without injury to self or others, or damage to goods or equipment.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria and include knowledge of:

- correct lifting techniques to prevent excessive wear and tear on equipment
- efficient driving techniques
- engine power management and safe operating strategies
- forklift controls, instruments and indicators, and their use
- forklift handling procedures
- high-risk work licence requirements
- operating hazards and related defensive driving and hazard control techniques
- operational emergency procedures
- pre-operational and shutdown checks carried out on forklift and related actions
- principles of stress management when driving a forklift, including fatigue
- relevant duty of care requirements for operating a forklift
- relevant WHS/OHS and environmental procedures and regulations
- relevant workplace procedures
- site layout and obstacles.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, tools, equipment and PPE currently used in industry
- applicable documentation, including legislation, regulations, codes of practice, workplace procedures and operation manuals.

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

TLID0020 Shift materials safely using manual handling methods

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit involves the skills and knowledge required to shift materials safely using manual handling methods.

It includes assessing the risks associated with relocating the load, planning the relocation process and carrying out the relocation in accordance with the plan. Work must be carried out in compliance with the relevant work health and safety (WHS)/occupational health and safety (OHS) regulations concerning the manual handling and movement of loads.

Work is performed under some supervision generally within a team environment.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Competency Field

D – Load Handling.

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Assess risks associated with relocating load

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Products, goods or materials to be relocated are identified and assessed to determine appropriate relocation method

1.2 Storage locations are determined and potential routes to be

followed are identified

- 1.3 Effect of load relocation on original load base is predicted
- 1.4 Points of balance are estimated
- 1.5 Required clearances are compared to available space and adjustments are made to moving loads to reflect required clearance
- 1.6 Worksite hazards are identified, and corrective action is taken prior to commencing shifting products, goods or materials
- 1.7 Risks in potential routes are considered
- 1.8 Risks to self are identified arising from the required lifting, load carrying, set down or movement of products, goods or materials
- 1.9 Manual handling procedures for lifting, lowering and carrying, pushing and pulling are identified
- 1.10 Team lifting processes are considered when moving loads
- 1.11 Appropriate personal protective equipment (PPE) is identified and used
- 1.12 Size to weight ratio of items to be manually handled are identified

2 Plan load relocation

- 2.1 Relocation of the load is planned consistent with the code of practice for manual handling and in accordance with the risk assessment
- 2.2 Process for relocating load is proposed, including predicting and planning for potential difficulties
- 2.3 Proposed process is checked for compliance with codes of practice and workplace procedures

3 Relocate load

- 3.1 Actions for lifting, lowering and carrying, pulling and pushing a load are in accordance with workplace procedures and WHS/OHS requirements
- 3.2 Team lifting tasks are coordinated
- 3.3 Planned process and route are followed
- 3.4 Relocated products, goods or materials are set down without

damage to goods, personnel or equipment and are checked for stability

- 3.5 Relocation is checked to ensure it meets work requirements and variances are reported to relevant personnel

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions can be found in the TLI Transport and Logistics Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to TLID1001 Shift materials safely using manual handling methods.

Links

Companion Volume Implementation Guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLID0020 Shift materials safely using manual handling methods

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria on at least one occasion and include:

- applying and following relevant work health and safety (WHS)/occupational health and safety (OHS) regulations and workplace procedures
- applying precautions and required action to minimise, control or eliminate risks that may exist when manually lifting and handling products, goods or materials
- communicating effectively with others when manually lifting and handling products, goods or materials
- interpreting manual handling risks
- modifying activities depending on operational contingencies, risk situations and environments
- operating and adapting to differences in loads and products, goods or materials in accordance with workplace procedures
- reading and interpreting instructions, procedures and information relevant to the manual lifting and handling of products, goods or materials
- selecting and using required personal protective equipment (PPE) conforming to industry and WHS/OHS standards
- using correct manual handling practices
- working collaboratively with others when manually lifting and handling products, goods or materials
- working systematically with required attention to detail without injury to self or others, or damage to products, goods, materials, or equipment.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria and include knowledge of:

- relevant WHS/OHS workplace procedures, codes of practice and industry guidelines concerning the manual lifting and movement of loads
- risks when manually lifting and handling products, goods or materials and related precautions to control the risk, including:
 - controlled actions on a movement during lifting
 - distance over which load is to be shifted
 - frequency of shifting operations
 - load on the spine during lifting
 - postures and positions during lifting
 - rotation and side movement of the spine during lifting
 - time allowed for shifting the load
 - type, weight and position of the load, including loose, liquid, dangerous or hazardous products, goods or materials
- site layout and obstacles
- work layout.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

A simulator/online assessment is not suitable for the final assessment of this unit of competency.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, tools, equipment and PPE currently used in industry
- applicable documentation, including legislation, regulations, codes of practice, workplace procedures and operation manuals.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

TLID1001 Shift materials safely using manual handling methods

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit involves the skills and knowledge required to shift loads safely using manual handling methods. Work must be carried out in compliance with the relevant work health and safety (WHS)/occupational health and safety (OHS) regulations concerning the manual handling and movement of loads.

It includes assessing the risks associated with relocating the load, planning the relocation process and carrying out the relocation in accordance with the plan.

Work is performed under some supervision generally within a team environment.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Competency Field

D – Load Handling

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Assess risks associated with

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Products, goods or materials to be relocated are identified and assessed to determine appropriate relocation method

relocating load

- 1.2 Storage locations are determined and potential routes to be followed are identified
- 1.3 Effect of load relocation on original load base is predicted
- 1.4 Points of balance are estimated
- 1.5 Required clearances are compared to available space and adjustments are made to moving loads to reflect required clearance
- 1.6 Effects of moving contents, which may be loose, liquid, dangerous or hazardous, are considered
- 1.7 Risks in potential routes are considered
- 1.8 Risks to self are identified arising from the required lifting, load carrying, set down or movement of the goods
- 1.9 Manual handling procedures for lifting, lowering and carrying, pushing and pulling are identified
- 1.10 Team lifting processes are considered when moving loads
- 1.11 Appropriate personal protective equipment is determined
- 1.12 Size to weight ratio of items to be manually handled are identified

2 Plan load relocation

- 2.1 Relocation of the load is planned, consistent with the code of practice for manual handling and in accordance with the risk assessment
- 2.2 Process for relocating load is proposed including predicting and planning for potential difficulties
- 2.3 Proposed process is checked for compliance with code of practice and workplace procedures

3 Relocate load

- 3.1 Actions for lifting, lowering and carrying, pulling and pushing a load are in accordance with workplace procedures and WHS/OHS requirements
- 3.2 Applications appropriate for team relocation of load are identified
- 3.3 Team lifting tasks are coordinated
- 3.4 Planned process and route are followed

- 3.5 Relocated materials are set down without damage to goods, personnel or equipment and are checked for stability
- 3.6 Relocation is checked to see it meets work requirements and variance/s are reported

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions can be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to TLID1001A Shift materials safely using manual handling methods.

Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLID1001 Shift materials safely using manual handling methods

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- applying precautions and required action to minimise, control or eliminate risks that may exist when manually lifting and handling materials and goods
- applying relevant legislation and workplace procedures
- communicating effectively with others when manually lifting and handling materials and goods
- implementing contingency plans when manually lifting and handling, materials and goods
- interpreting and following operational instructions and prioritising work
- interpreting manual handling risks
- modifying activities depending on operational contingencies, risk situations and environments
- operating and adapting to differences in loads and materials in accordance with standard operating procedures
- reading and interpreting instructions, procedures and information relevant to the manual lifting and handling of materials and goods
- selecting and using required personal protective equipment conforming to industry and work health and safety (WHS)/occupational health and safety (OHS) standards
- using correct manual handling practices
- working collaboratively with others when manually lifting and handling materials and goods
- working systematically with required attention to detail without injury to self or others, or damage to goods or equipment.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- housekeeping standards and procedures
- relevant WHS/OHS procedures and guidelines concerning the manual lifting and movement of loads
- risks when manually lifting and handling materials and goods, and related precautions to control the risk, including:
 - controlled actions on a movement during lifting
 - distance over which load is to be shifted
 - frequency of shifting operations
 - load on the spine during lifting
 - postures and positions during lifting
 - rotation and side movement of the spine during lifting
 - time allowed for shifting the load
 - type, weight and position of the load
 - work layout
 - site layout and obstacles
- workplace procedures and policies for manual handling.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations, current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations, current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment currently used in industry
- applicable documentation including workplace procedures, regulations, codes of practice

and operation manuals.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

TLID2022 Conduct weighbridge operations

Modification History

Release 2. This is the second release of this unit of competency in the TLI Transport and Logistics Training Package.

- Minor changes to unit Application
- Minor changes to Performance Criteria
- Minor changes to Performance Evidence
- Minor changes to Assessment Conditions.

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit involves the skills and knowledge required to conduct weighbridge operations.

It includes setting up for weighbridge operations, weighing loaded and unloaded vehicles, finalising weighbridge operations, and completing required records and documentation in accordance with workplace procedures and regulatory requirements.

Work is performed under some supervision, generally within a team environment.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Competency Field

D – Load Handling

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the

Performance criteria describe the performance needed to

essential outcomes.

demonstrate achievement of the element.

1 Set up for weighbridge operations

- 1.1 Weighbridge systems, including equipment, computer and recording arrangements, are checked for operational status
- 1.2 Tests to confirm accuracy of weighbridge operation and related functions are conducted in accordance with workplace procedures, manufacturer instructions and relevant legislation
- 1.3 Accurate reporting of results of inspection and testing is kept in accordance with statutory requirements, workplace procedures and industry guidelines
- 1.4 Hazards are identified, risks are assessed, and control measures are implemented
- 1.5 Faults and discrepancies in weighbridge operation are identified and appropriate action is undertaken in accordance with workplace procedures

2 Weigh loaded vehicles

- 2.1 Vehicles are directed onto platform to obtain accurate weight
- 2.2 Weight of loaded stationary vehicle is registered against vehicle and load identification
- 2.3 Vehicle and load information is entered into workplace recording system and driver is issued with receipt and/or statement
- 2.4 Areas of dispute are resolved or forwarded for further action to be undertaken in accordance with workplace procedures

3 Weigh unloaded vehicles

- 3.1 Vehicles are directed onto platform to obtain accurate weight
- 3.2 Weight of unloaded stationary vehicle is registered against vehicle
- 3.3 Proposed load weight is assessed for conformance to statutory requirements
- 3.4 Loading operations are commenced in accordance with legal loading weight, customer requirements and workplace procedures, and vehicle is re-weighed to establish final load weight, as required
- 3.5 Vehicle and load information are entered into workplace recording system and invoice is issued to driver, as required
- 3.6 Weighbridge documents, invoices or receipts are obtained in

accordance with statutory and workplace requirements

3.7 Areas of dispute are resolved or forwarded for further action to be undertaken in accordance with workplace procedures

4 Complete weighbridge operations

4.1 Weighbridge systems, including equipment, computer and recording arrangements, are secured or made ready for next shift

4.2 Record of operations is maintained and filed in accordance with workplace procedures and statutory requirements

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions can be found in the TLI Transport and Logistics Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to TLID2022A Conduct weighbridge operations.

Links

Companion Volume Implementation Guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLID2022 Conduct weighbridge operations

Modification History

Release 2. This is the second release of this unit of competency in the TLI Transport and Logistics Training Package.

- Minor changes to unit Application
- Minor changes to Performance Criteria
- Minor changes to Performance Evidence
- Minor changes to Assessment Conditions.

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria on at least one occasion and include:

- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant legislation and workplace procedures
- completing relevant documentation
- identifying, selecting and efficiently and effectively using weighbridge equipment
- modifying activities depending on operational contingencies, risk situations and environments
- monitoring performance of weighbridge equipment
- operating and adapting to differences in equipment in accordance with workplace procedures
- reading, interpreting and following relevant instructions, procedures and information
- reporting and/or rectifying identified problems, errors or malfunctions promptly in accordance with regulatory requirements and workplace procedures
- selecting and using required personal protective equipment (PPE) conforming to industry and work health safety (WHS)/occupational health and safety (OHS) standards
- setting up and maintaining weighbridge equipment
- working systematically with required attention to detail without injury to self or others, or damage to goods or equipment.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria and include knowledge of:

- calculation method and approaches for metric and imperial systems
- classification procedures
- correct weighing procedures, including statutory and workplace requirements
- emergency response procedures
- equipment applications, capacities, configurations, safety hazards and control mechanisms
- problems that may occur when conducting weighbridge operations and appropriate actions that can be taken to resolve these problems
- records and documentation requirements for weighbridge operations
- relevant regulations for conducting weighbridge operations, including relevant dangerous goods systems and dangerous goods regulation requirements
- relevant WHS/OHS and environmental protection procedures and guidelines
- site layout
- weights and measures regulations
- workplace procedures for conducting weighbridge operations.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, tools, equipment and PPE currently used in industry
- applicable documentation, including legislation, regulations, National Transport Commission (NTC) Load Restraint Guide, relevant dangerous goods systems and dangerous goods regulation requirements, codes of practice, workplace procedures and operation manuals.

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

TLID3011 Conduct specialised forklift operations

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit involves the skills and knowledge required to operate a forklift with specialised attachments or all-terrain equipment, in accordance with relevant state/territory high risk work licence requirements and regulations, in a variety of operational contexts.

It includes checking attachments and worksite for suitability, selecting type of forklift and accessories for required workplace task, shifting load and completing work in accordance with operational requirements.

Specialised operation of a forklift is performed under some supervision, generally within a team environment. It involves the application of equipment operation principles and procedures to maintain the safety and specialised operation of a forklift

A person who operates a forklift must hold a high risk work licence.

Pre-requisite Unit

Not applicable.

Competency Field

D – Load Handling

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

- | | |
|--|--|
| 1 Check attachments and worksite for suitability | <p>1.1 Suitable work area is selected for operations</p> <p>1.2 Job hazards are identified and required action is taken to minimise, control or eliminate identified hazards</p> <p>1.3 Work area is checked for overhead obstructions and proximity to service delivery lines</p> <p>1.4 Barriers or warning signs are erected in areas subject to passing traffic</p> <p>1.5 Attachments and platforms are securely fixed to carriage or tines</p> <p>1.6 Personnel support platforms are inspected to ensure accordance with relevant Australian Standard/s</p> |
| 2 Select type of forklift and accessories for required workplace task | <p>2.1 Special equipment, accessories or attachments are identified to match load characteristics and work requirements</p> <p>2.2 Appropriate specialised equipment is selected</p> <p>2.3 Existing attachments are removed and stored in accordance with workplace procedures</p> <p>2.4 Specialised equipment is fitted in accordance with manufacturer instructions and workplace procedures</p> <p>2.5 Designated staff are notified about specialist operations</p> |
| 3 Shift load and complete work | <p>3.1 Equipment is operated within safe working limits and to maximise efficiency of operations</p> <p>3.2 Load is lifted, carried and set down in accordance with workplace and manufacturer procedures, and regulatory requirements</p> <p>3.3 Documentation is completed damage or faults to goods or equipment are reported to appropriate personnel</p> <p>3.4 Specialist equipment and forklift are returned to appropriate storage/parking area</p> |

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions can be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to TLID3011A Conduct specialised forklift operations.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLID3011 Conduct specialised forklift operations

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- applying precautions and required action to minimise, control or eliminate identified hazards
- checking and replenishing fluids and carrying out lubrication processes during work activities
- checking forklift compliance plate for safe weight limits
- communicating effectively with others
- completing relevant documentation
- identifying points of balance and safe lifting positions on a range of loads when operating a forklift (including accessories)
- implementing contingency plans
- interpreting and following operational instructions and prioritising work
- modifying activities depending on operational contingencies, risk situations and environments
- monitoring equipment performance
- monitoring work activities in terms of planned schedule
- operating and adapting to differences in equipment in accordance with operating procedures
- reading and interpreting relevant instructions, procedures, information and signs
- reporting and/or rectifying identified problems, faults or malfunctions promptly, in accordance with regulatory requirements and workplace procedures
- selecting and using required personal protective equipment conforming to industry and work health safety (WHS)/occupational health and safety (OHS) standards
- servicing equipment in terms of maintenance schedule and operating procedures
- working collaboratively with others
- working systematically with required attention to detail without injury to self or others, or damage to goods or equipment.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- efficient driving techniques
- engine power management and safe operating strategies
- forklift controls, instruments and indicators, and their use
- handling procedures for forklifts involved in specialised operations
- high risk work licence workplace requirements
- operating hazards, and related defensive driving and hazard control techniques
- pre-operational checks carried out on forklift and accessories, and related action
- procedures to be followed in an operational emergency
- relevant duty of care requirements for specialised operation of a forklift
- relevant WHS/OHS and environmental procedures and regulations
- safe weight limits
- site layout and obstacles
- types of forklift accessories and ancillary equipment, their purposes and procedures for their use
- workplace operating procedures.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment include:

- a range of relevant exercises, case studies and/or simulations
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- relevant materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

TLIF0009 Ensure the safety of transport activities (Chain of Responsibility)

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit involves the skills and knowledge required to ensure the safety of transport activities.

It includes identifying features and applying chain of responsibility obligation in the Heavy Vehicle National Law (HVNL) or applicable state/territory law and regulations. It also includes identifying and reporting chain of responsibility risks.

Transport activities as defined by the HVNL or applicable state/territory law and regulations.

Work is performed under close direction, generally within a team environment.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Competency Field

F – Safety Management

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Identify chain of responsibility features in the HVNL or applicable

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Transport activities and parties in the chain of responsibility are identified

state/territory law and regulations

- 1.2** Principle of shared responsibility obligations within chain of responsibility in the HVNL or applicable state/territory law and regulations are identified
 - 1.3** Primary duty of each party in the chain of responsibility as outlined in the HVNL or applicable state/territory law and regulations are explained
 - 1.4** So far as reasonably practicable or reasonable steps, compliance with chain of responsibility as outlined in the HVNL or applicable state/territory law and regulations are explained
 - 1.5** Breaches and penalties for failure to comply with chain of responsibility as identified in the HVNL or applicable state/territory law and regulations are explained
- 2 Apply chain of responsibility obligations in the HVNL or applicable state/territory law and regulations**
- 2.1** Workplace policies, procedures and other documents relevant to transport activities as they apply to own job function are identified and explained
 - 2.2** Methods and requirements to facilitate and ensure management of speed and fatigue are explained in accordance with job function and workplace procedures
 - 2.3** Methods to assess vehicle dimension and mass limits are explained in accordance with job function
 - 2.4** Methods to ensure loads are secured are explained in accordance with workplace procedures
 - 2.5** Heavy vehicles safety standards are identified in accordance with job function and workplace procedures
 - 2.6** Transport activities risks are identified, assessed and risk control measures implemented in accordance with workplace procedures
 - 2.7** Workplace procedures and industry practices for reporting transport activities risks are identified and followed
 - 2.8** Workplace documents relating to chain of responsibility are completed and processed to workplace requirements

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Unit Mapping Information

This unit replaces but is not equivalent to TLIF0001 Apply chain of responsibility legislation, regulations and workplace procedures.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLIF0009 Ensure the safety of transport activities (Chain of Responsibility)

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include:

- applying applicable state/territory law and regulations
- assessing the likelihood and consequences of harm relating to own job function on a minimum of three occasions
- completing safety documentation of identified transport activities of a heavy vehicle risk on a minimum of three occasions, each about a different type of risk
- identifying risks associated with transport activities of a heavy vehicle of own job function and at least two other job functions directly related to own job function
- implementing relevant risk control measures and report actions taken to relevant person in accordance with workplace procedures on a minimum of three occasions.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- action required when possible risks of the transport activities are identified
- consideration of external factors in managing speed and fatigue
- function of driver and how they relate to transport activities, including level of influence and control
- methods, industry standards and requirements to ensure management of fatigue, speed, load restraint, mass, dimension and heavy vehicle maintenance and how they relate to transport activities job functions
- parties in the chain of responsibility and the concept of level of influence and control
- potential consequences of non-compliance with the applicable heavy vehicle state/territory law and regulations
- principle of shared responsibility
- transport activities as defined by the Heavy Vehicle National Law (HVNL) or applicable state/territory law and regulations
- what constitutes an unreasonable request
- where to locate current information relating to heavy vehicle transport activities including:
 - codes of practices

- heavy vehicle standards
- securing loads, load placement and load restraint
- vehicle dimension and mass limits
- workplace policies and procedures for own job function.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include:

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (PPE) currently used in industry
- applicable documentation including legislation, regulations, codes of practice, workplace procedures and operation manuals.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

TLIF0014 Monitor the safety of transport activities (Chain of Responsibility)

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit involves the skills and knowledge required to monitor the safety of transport activities.

It includes determining and monitoring chain of responsibility features in the Heavy Vehicle National Law (HVNL) or applicable state/territory law and regulations. It also involves administering and monitoring chain of responsibility workplace policies and procedures, and identifying and reporting chain of responsibility risks.

Work is performed under general direction.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Competency Field

F – Safety Management

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

- 1 Determine chain of responsibility features in the HVNL or applicable state/territory law and**

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Transport activities and parties in the chain of responsibility are determined

regulations

- 1.2 Principle of shared responsibility obligations within chain of responsibility in the HVNL or applicable state/territory law and regulations are determined
- 1.3 Primary duty of each party in the chain of responsibility as outlined in the HVNL or applicable state/territory law and regulations are explained
- 1.4 So far as reasonably practicable or reasonable steps compliance with chain of responsibility as outlined in the HVNL or applicable state/territory law and regulations are explained
- 1.5 Breaches and penalties for failure to comply with chain of responsibility as identified in the HVNL or applicable state/territory law and regulations are explained
- 2 **Monitor chain of responsibility obligations in the HVNL or applicable state/ territory law and regulations**
 - 2.1 Workplace policies, procedures and other safety documents relevant to transport activities as they apply to job function are identified and monitored
 - 2.2 Methods and requirements to facilitate and ensure management of speed and fatigue are monitored in accordance with job function and workplace procedures
 - 2.3 Methods to calculate and assess vehicle dimension and mass limits are monitored in accordance with job function
 - 2.4 Methods to ensure loads are secured are monitored in accordance with workplace procedures
 - 2.5 Heavy vehicles safety standards are identified and monitored in accordance with workplace procedures
 - 2.6 Transport activity risks are identified, assessed and risk control measures implemented and monitored in accordance with workplace procedures
 - 2.7 Workplace records relating to transport activities are monitored and reviewed in accordance with workplace requirements and industry practice
- 3 **Administer and monitor chain of responsibility workplace policies and**
 - 3.1 Workplace procedures and industry practices for reporting transport activities risks are identified and

procedures	implemented
	<p>3.2 Workplace policies and procedures relating to chain of responsibility and associated changes are communicated to all staff</p> <p>3.3 Application of workplace policies and procedures relating to chain of responsibility is monitored to ensure compliance with transport activity obligations</p> <p>3.4 Appropriate action is taken when non-compliances with chain of responsibility requirements are identified</p>
4 Undertake due diligence activities	<p>4.1 Transport activities risks and safety duties are identified in accordance with job function and workplace procedures</p> <p>4.2 Current hazards and risk information is analysed in a timely manner and appropriate mitigation actions considered in accordance with job function and workplace procedures</p> <p>4.3 Resources are allocated in accordance with job function and workplace procedures</p> <p>4.4 Risk control measures are implemented and mitigation processes verified in accordance with workplace procedures</p>

Foundation Skills

Foundation skills essential to performance are explicit at a broad level in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Unit Mapping Information

This unit replaces but is not equivalent to TLIF0002 Administer chain of responsibility policies and procedures.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLIF0014 Monitor the safety of transport activities (Chain of Responsibility)

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include:

- applying and monitoring workplace policies and procedures relating to safety of transport activities (chain of responsibility) in a supervisory function reflecting a minimum of four weeks
- applying applicable state/territory law and regulations
- applying chain of responsibility obligations relating to own job function on a minimum of three occasions
- assessing the likelihood and consequences of harm relating to own job function on a minimum of three occasions
- completing safety documentation of identified transport activities of a heavy vehicle risks on a minimum of three occasions, each about a different type of risk
- identifying heavy vehicle transport activities risks
- implementing relevant risk control measures and reporting actions taken to relevant person in accordance with workplace procedures on a minimum of three occasions.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- actions required when possible risks of the transport activity of a heavy vehicle are identified
- consideration of external factors in managing speed and fatigue
- due diligence including taking reasonable steps to:
 - acquire and keep up to date on knowledge about the safe conduct of transport activities
 - identify the nature of the legal entity's transport activities and the hazards and risks associated with those activities
 - ensure that appropriate resources are allocated and used to eliminate or minimise those hazards and risks
 - verify the control measures implemented are effective
- function of driver and how they relate to transport activities including level of influence and control

- functions including:
 - duties within the individual's own function
 - duties performed by others under the individual's supervision
 - duties that influence or direct other parties in the chain of responsibility
- methods, industry standards and requirements to ensure management of fatigue, speed, load restraint, mass, dimension and heavy vehicle maintenance and how they relate to transport activity job functions
- parties in the chain of responsibility and the concept of level of influence and control
- potential consequences of non-compliance with the applicable heavy vehicle state/territory law and regulations
- principal obligations relating to chain of responsibility in the Heavy Vehicle National Law (HVNL) or applicable state/territory law and regulations including:
 - consideration of traffic conditions in managing speed and fatigue
 - fatigue, work and rest times
 - securing loads
 - vehicle dimension and load limits
- transport activities as defined by the HVNL or applicable state/territory law and regulations
- what constitutes a shared duty, a reasonable practicable, a risk and heavy vehicle transport activity as they apply to a range of job functions
- what constitutes an unreasonable request
- where to locate current information relating to heavy vehicle transport activities including:
 - codes of practices
 - heavy vehicle standards
 - securing loads, load placement and load restraint
 - vehicle dimension and mass limits
- workplace policies and procedures for own job function and the range of job functions for which own job function is responsible.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include:

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (PPE) currently used in industry
- applicable documentation including legislation, regulations, codes of practice, workplace procedures and operation manuals.

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

TLIF0022 Conduct housekeeping activities

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit involves the skills and knowledge required to conduct housekeeping activities.

It includes identifying housekeeping requirements, procedures and resources of different areas of the workplace; monitoring and maintaining cleanliness and tidiness; and completing assigned housekeeping tasks.

Work is performed under some supervision generally in a team environment.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Competency Field

F - Safety Management.

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Determine housekeeping requirements for different workplace areas

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Workplace housekeeping procedures are identified and followed

1.2 Equipment and consumables are selected in accordance with work area requirements

- 1.3 Specific procedures and resources for housekeeping activities in different parts of the work area are identified and followed
 - 1.4 Worksite hazards are identified and corrective actions taken prior to commencing housekeeping activities
 - 1.5 Appropriate personal protective equipment (PPE) is identified and used
- 2 Monitor and maintain cleanliness and tidiness in the workplace**
 - 2.1 Worksite cleanliness and tidiness are continuously monitored
 - 2.2 Housekeeping issues are raised with appropriate personnel in accordance with workplace procedures
 - 2.3 Housekeeping equipment is operated in accordance with manufacturer instructions and workplace procedures
 - 2.4 Housekeeping equipment and supplies are maintained and stored
- 3 Complete assigned housekeeping duties**
 - 3.1 Housekeeping duties are conducted in accordance with workplace procedures and ensuring waste is removed
 - 3.2 Maintenance requirements of any damaged items are notified to appropriate personnel
 - 3.3 Schedules and records for housekeeping duties are maintained and followed
 - 3.4 Work areas are checked and required workplace standards are met
 - 3.5 Work is carried out following housekeeping practices and safe work procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions can be found in the TLI Transport and Logistics Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to TLIF1002 Conduct housekeeping activities.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLIF0022 Conduct housekeeping activities

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria on at least one occasion and include:

- adapting to differences in equipment in accordance with workplace procedures
- applying precautions and required actions to minimise, control or eliminate hazards that may exist during housekeeping activities
- communicating and working effectively with others when carrying out housekeeping activities
- identifying workplace housekeeping requirements and undertaking housekeeping in the workplace
- interpreting and following operational instructions and prioritising work
- modifying activities depending on operational contingencies, risk situations and environments
- monitoring condition and performance of housekeeping tools and equipment in accordance with maintenance schedule and workplace procedures
- removing waste in accordance with workplace procedures
- reporting and rectifying within limits of own role, problems, faults and malfunctions identified when carrying out housekeeping activities in accordance with regulatory requirements and workplace procedures
- using appropriate personal protective equipment (PPE)
- working systematically with required attention to detail without injury to self or others, or damage to goods or equipment.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria and include knowledge of:

- housekeeping standards
- purpose of housekeeping within the workplace
- relevant workplace practices and safeworking procedures for own job role
- risks when carrying out housekeeping tasks and related precautions to control them

- servicing procedures for housekeeping equipment
- site layout and obstacles
- workplace procedures and policies for carrying out housekeeping activities in the workplace.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, tools, equipment and PPE currently used in industry
- applicable documentation, including legislation, regulations, codes of practice, workplace procedures and operation manuals.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

TLIF2010 Apply fatigue management strategies

Modification History

Release 2. This is the second release of this unit of competency in the TLI Transport and Logistics Training Package.

- Minor changes to unit Application
- Minor changes to Assessment Conditions.

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit involves the skills and knowledge required to apply fatigue management strategies within the transport and logistics industry.

It includes identifying and acting on signs of fatigue and implementing appropriate strategies to minimise fatigue during work activities, in particular when operating equipment, trains, vehicles, load shifting equipment, marine vessels and aircraft.

Work is undertaken in compliance with relevant legislation, regulations, codes and guidelines.

Work is performed under some supervision generally within a team environment.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Competency Field

F – Safety Management.

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS PERFORMANCE CRITERIA

Elements describe the Performance criteria describe the performance needed to demonstrate

essential outcomes. achievement of the element.

- | | |
|---|---|
| 1 Identify and act on signs of fatigue | <p>1.1 Potential causes of fatigue are identified and actions taken to minimise their effects in accordance with workplace procedures</p> <p>1.2 Personal warning signs of fatigue are recognised, and necessary steps are taken in accordance with workplace procedures, to ensure that effective work capability and alertness are maintained</p> |
| 2 Implement strategies to minimise fatigue | <p>2.1 Workplace procedures are assessed to minimise fatigue</p> <p>2.2 Factors that increase the risk of fatigue-related accidents and incidents are minimised</p> <p>2.3 Fatigue management strategies are implemented in accordance with workplace policy and procedures</p> <p>2.4 Lifestyle choices are made that promote the effective long-term management of fatigue</p> <p>2.5 Effective practices in combating fatigue are adopted and applied</p> <p>2.6 Personal fatigue management strategies are communicated to relevant people</p> <p>2.7 Appropriate counter measures are planned to combat fatigue</p> |

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions can be found in the TLI Transport and Logistics Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to TLIF2010A Apply fatigue management strategies.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLIF2010 Apply fatigue management strategies

Modification History

Release 2. This is the second release of this unit of competency in the TLI Transport and Logistics Training Package.

- Minor changes to unit Application
- Minor changes to Assessment Conditions.

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria on at least one occasion and include:

- adapting to changes in rosters and standard operating procedures (SOPs) as they relate to fatigue management
- adjusting lifestyle patterns to ensure effective fatigue management during work activities
- applying precautions and required actions to minimise and control the effects of fatigue when carrying out own work functions
- applying relevant legislation and workplace procedures
- communicating effectively with others when applying fatigue management strategies
- identifying and meeting own learning needs about fatigue management related matters
- modifying activities and taking appropriate initiatives to manage fatigue in the workplace depending on work contexts, risk situations and environments
- reading and interpreting instructions, procedures, regulations and signs related to fatigue management and applying them to work activities
- recognising symptoms of fatigue and taking appropriate actions in accordance with fatigue management regulations and workplace procedures
- working collaboratively with others to manage and minimise the effects of fatigue during work activities.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria and include knowledge of:

- causes and effects of fatigue on workers
- factors that increase fatigue-related accidents
- how fatigue affects workplace performance

- how fatigue contributes to workplace accidents
- lifestyles that promote effective long-term fatigue management
- relevant fatigue management codes, regulations, permit and licence requirements
- relevant work health and safety (WHS)/occupational health and safety (OHS) regulations as they relate to fatigue
- risks and hazards created by workplace fatigue
- sources of information on fatigue
- strategies and ways of managing fatigue
- ways of recognising fatigue
- workplace policies and procedures related to fatigue management and the control of factors that can contribute to fatigue and fatigue-related accidents.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, tools, equipment and personal protective (PPE) equipment currently used in industry
- applicable documentation, including legislation, regulations, codes of practice, workplace procedures and operation manuals.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

TLIF4064 Manage fatigue management policy and procedures

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit involves the skills and knowledge required to manage organisational fatigue management policy and procedures in accordance with relevant legislation and regulations.

It includes identifying legal requirements, liabilities and responsibilities for establishing and/or improving fatigue management implementation plans, policies and procedures. It also includes acting appropriately on reports and identified breaches of fatigue management regulations.

It also includes ensuring operational systems are compliant with fatigue management regulations and policy; planning and organising adequate resources and operational systems; and facilitating the training and assessment of staff on their responsibilities and fatigue management techniques.

Work is performed under minimum supervision generally as a manager.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Competency Field

F – Safety Management

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to

essential outcomes.

demonstrate achievement of the element.

1 Identify or confirm fatigue management legal requirements and responsibilities

1.1 Current legal requirements, liabilities and responsibilities for effective fatigue management within the organisation are identified and interpreted

1.2 Existing fatigue management plans, policies and procedures are obtained and reviewed

1.3 Internal risks concerning the potential effects of fatigue are identified or confirmed and reviewed

1.4 External risks within the organisational services and/or products supply chain concerning the potential effects of fatigue are identified or confirmed and reviewed in accordance with fatigue management regulations and the related chain of responsibility

2 Establish and improve fatigue management policy and procedures

2.1 Organisational fatigue risk management system implementation plan is developed or reviewed and improved

2.2 Organisational fatigue risk management policy and procedures are developed or reviewed and improved in conjunction with relevant personnel

2.3 Feedback is obtained on the implementation plan and related policies and procedures from key stakeholders internal and external to the organisation

2.4 Appropriate adjustments are made to the plan, policies and procedures based on the feedback received

2.5 Managerial approval for the fatigue risk management system implementation plan and related policies and procedures is obtained in accordance with organisational procedures

2.6 Fatigue risk management system implementation plan and the related policies and procedures are distributed and presented to relevant organisational personnel for implementation

3 Act upon reports on the implementation of fatigue management policy

3.1 Reports from designated personnel on the implementation of the organisational fatigue risk management system implementation plan and related policies and procedures are received and interpreted

3.2 Accidents and safety incidents are reviewed and/or investigated and analysed to identify the extent to which

fatigue might have been a contributing factor

3.3 Information provided in the reports indicating that fatigue management policy and procedures are not being correctly implemented is analysed and an appropriate managerial response and related action is initiated

3.4 Opportunities for improvements to the organisational fatigue risk management system implementation plan and related policies and procedures are identified and appropriate action is taken to make the necessary adjustments

4 Act upon identified fatigue management regulations breaches

4.1 Identified or reported fatigue management policy breaches are investigated in accordance with organisational procedures and regulatory requirements

4.2 Action is taken to ensure internal and/or external personnel who may have contributed to any breach of fatigue management policy are provided with appropriate feedback and information to avoid recurrence of the breakdown in planned fatigue management processes

4.3 Where organisational procedures or culture is found to have contributed to a breach in fatigue management policy, appropriate action is taken to improve procedures or to address the culture in ways that aim to avoid a recurrence of the breakdown in planned fatigue management processes

4.4 Report on breaches of fatigue management policy is prepared and submitted to designated personnel with details of action taken to prevent a recurrence, in accordance with organisational procedures

5 Ensure that operations systems are compliant with fatigue management regulations and policy

5.1 All operations systems and standard operating procedures are reviewed in terms of their compliance with the organisational fatigue management regulations and policy

5.2 Where necessary, changes are made to operations systems and standard operating procedures to ensure that they are compliant

5.3 In accordance with the chain of responsibility principles, appropriate discussions are held with relevant personnel in supplier or subcontractor companies in the organisational supply chain to ensure their operational systems and standard operating procedures are compliant with the fatigue management regulations and policy

- 6 Plan and organise adequate resources and operational systems**
- 6.1 Organisational budgets and resource allocation strategies are planned to provide adequate resources for the implementation of the organisational fatigue risk management system
 - 6.2 Periodic reviews are undertaken of budgetary and resource allocation arrangements as they relate to implementing the organisational fatigue risk management systems and appropriate improvements are made as required
- 7 Facilitate the training and assessment of staff on fatigue management policy and procedures**
- 7.1 Organisational training systems are planned to provide competency-based on-the-job and off-the-job training and assessment opportunities as detailed in the organisational strategic plan
 - 7.2 Team leaders, supervisory and training staff are provided with adequate opportunities to develop the required expertise to contribute to the organisational fatigue management training and assessment activities
 - 7.3 Periodic reviews are undertaken of fatigue management training systems and appropriate improvements are made as required

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions can be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to TLIF4064A Manage fatigue management policy and procedures.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLIF4064 Manage fatigue management policy and procedures

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- adapting to changes in legislation and regulations as they relate to fatigue management
- applying relevant legislation and workplace procedures
- communicating and working effectively with others when implementing the organisational fatigue risk management system
- facilitating systems that assist employees to identify their own learning needs about fatigue management
- modifying activities and taking appropriate initiative to manage the implementation of an organisational fatigue risk management system depending on differing contexts, risk situations and environments
- organising audits and reviews of an organisation's fatigue risk management system
- planning and organising budgetary requirements and resource allocation for implementing an organisational fatigue risk management system
- reading and interpreting documentation on fatigue management legislation and the organisational fatigue risk management system and applying them to management activities
- recognising breaches of fatigue management strategies and regulations and taking appropriate action in accordance with the organisational fatigue risk management system.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- budgetary and resource requirements for implementing an organisational fatigue risk management system
- causes and effects of fatigue on employees
- components of a fatigue risk management system, and policies and procedures related to fatigue management, and the control of factors that can contribute to fatigue and

fatigue-related accidents

- factors that increase fatigue-related errors and accidents
- fatigue reduction and proofing strategies available to an organisation that can minimise the risk of errors and safety incidents due to fatigue such as assigning low risk tasks to periods when fatigue risk is higher
- how fatigue affects workplace performance
- how fatigue contributes to workplace accidents
- lifestyles that promote the effective long-term management of fatigue
- options and resources for providing training and learning opportunities for employees about fatigue management and implementing an organisational fatigue risk management system, including initial induction training, in-depth training on fatigue and fatigue management techniques, remedial training where existing competence is assessed as being insufficient, and refresher training on fatigue management
- procedures for auditing and reviewing an organisational fatigue risk management system and related policies and procedures, and for reporting audit outcomes
- processes and resources for assessing employee fatigue management competence
- relevant legislation, regulations, permit and licence requirements related to fatigue management
- relevant work health and safety (WHS)/occupational health and safety (OHS) regulations as they relate to fatigue
- responsibilities of an organisation and individual employees for implementing fatigue management regulations and policies, including requirements agreed with suppliers and sub-contractors in the supply chain about organisational services and products
- risks and hazards created by workplace fatigue
- sources of information on fatigue
- strategies and ways to manage fatigue
- strategies for ensuring that the investigation and analysis of errors, safety incidents and accidents identify the extent to which fatigue is a contributing factor
- systems for auditing the effectiveness and efficacy of organisational fatigue risk management strategies, policies and procedures
- ways of recognising fatigue.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations, current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations, current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational

situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment include:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment currently used in industry
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

TLIH0005 Interpret road maps and navigate pre-determined routes

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit involves the skills and knowledge required to interpret road maps and navigate pre-determined routes as part of transport operations.

It includes identifying and determining the most appropriate route and completing required route documentation in accordance with operational requirements.

It involves the application of map reading principles and procedures when interpreting street maps which includes either a road map, directory or global positioning system (GPS) device; and following pre-determined routes.

Work is performed under general or limited supervision.

Work must be carried out in accordance with relevant state or territory roads and/or traffic authority regulations.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Competency Field

H – Route Planning and Navigation.

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate

essential outcomes.

achievement of the element.

1 Identify and complete pre-planned route

- 1.1 Pre-determined route documentation is accessed and interpreted
- 1.2 Relevant street maps are identified and accessed for pre-planned route
- 1.3 Street map symbols for pre-planned route are recognised and interpreted
- 1.4 Points of departure and destination are identified in a directory index and information is used to locate designated places on appropriate street map
- 1.5 Pre-determined route directions are interpreted, and route is traced using street map
- 1.6 Key intersections and other landmarks along route are identified for use in following planned route
- 1.7 Alternative contingency routes are identified for emergencies or traffic delays
- 1.8 Pre-determined route is correctly followed

2 Complete necessary documentation

- 2.1 Required route documentation is completed in accordance with workplace procedures, as required
- 2.2 Required route documentation is filed in accordance with workplace procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions can be found in the TLI Transport and Logistics Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to TLIH2001 Interpret road maps and navigate pre-determined routes.

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLIH0005 Interpret road maps and navigate pre-determined routes

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria on at least one occasion and include:

- applying relevant workplace procedures
- completing documentation related to route navigation, as required
- estimating route distances using map information
- interpreting and following operational instructions and prioritising work
- navigating a pre-determined route
- planning alternative contingency routes for road works, emergencies or delays
- planning own work, predicting consequences and identifying improvements
- plotting a route from one destination to another relevant to job task
- reading and interpreting relevant instructions, procedures, information and signs
- using street maps and other route documentation to complete and navigate pre-determined routes, as required, and in accordance with workplace procedures.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria and include knowledge of:

- current route information about accidents or emergencies that might close or restrict traffic
- height, width and mass limitations of bridges, tunnels and other critical physical structures along a possible route
- location of service stations and rest stops as required
- operational procedures for interpreting road maps, using global positioning system (GPS) devices and navigating routes
- relevant state or territory permit and licence regulations and requirements
- road conditions for various routes, including sections undergoing road works
- traffic conditions at various times of the day and night along specific routes
- typical problems that may arise concerning interpreting road maps, using GPS devices and navigating pre-determined routes, and appropriate actions that should be taken

- workplace requirements for recording and documenting route information, as required.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include:

- a range of relevant exercises, case studies and/or simulations
- relevant materials, tools, equipment and personal protective equipment (PPE) currently used in industry to navigate routes
- applicable documentation, including workplace procedures, regulations, codes of practice and operation manuals.

A simulator/online assessment is not suitable for the final assessment of this unit of competency.

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

TLIJ0003 Apply quality systems

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit involves the skills and knowledge required to apply quality systems.

It includes working within a quality system; using quality systems, tools and techniques; and contributing to quality system continuous improvement processes.

Work is performed under some supervision, generally within a team environment.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Competency Field

J – Quality.

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Work within a quality system

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1 Appropriate quality systems for job role and work area are identified
- 1.2 Quality system is applied and clarification is sought from appropriate personnel, as required
- 1.3 Duties are performed either individually or as a member of a

work team within a quality system

- 2 Use quality systems, tools and techniques**
 - 1.4** Work is completed in accordance with workplace policies and procedures
 - 2.1** Variations from required standards in the quality of services and/or products are detected and reported in accordance with workplace policies and procedures
 - 2.2** Quality of operations and services is monitored in accordance with workplace policies and procedures
 - 2.3** Quality improvement tools and techniques are used systematically to improve the quality of work, services and/or products
- 3 Contribute to quality system continuous improvement processes**
 - 3.1** Continuous improvement processes of the quality system are participated in according to work procedures
 - 3.2** Continuous improvement issues are documented for consideration by appropriate personnel

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions can be found in the TLI Transport and Logistics Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to TLIJ3002 Apply quality systems.

This unit replaces and is not equivalent to TLIJ4008 Implement and monitor inbound quality assurance systems.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLIJ0003 Apply quality systems

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria on at least one occasion and include:

- applying relevant instructions, procedures and information
- applying relevant legislation and workplace policies and procedures
- communicating effectively with relevant personnel
- completing relevant documentation
- detecting and reporting identified problems in accordance with legislative requirements and workplace policies and procedures
- identifying and reporting variations to appropriate personnel
- monitoring work activities in relation to quality system standards and processes
- participating and documenting continuous improvement opportunities
- selecting and using quality improvement tools and methods
- working collaboratively with others when applying and implementing quality systems.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria and include knowledge of:

- operational work systems, equipment, site and organisational operating procedures relevant to job role and quality systems
- quality improvement tools and methods
- teamwork and communication principles and protocols
- typical quality-related problems that may arise and related options for action and solutions
- workplace quality assurance and continuous improvement principles and procedures.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory

requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (PPE) currently used in industry
- applicable documentation, including legislation, regulations, codes of practice, workplace procedures and operation manuals.

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

TLILIC0003 Licence to operate a forklift truck

Modification History

Release 1. This is a release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit specifies the skills and knowledge required to operate a forklift truck safely in accordance with all relevant legislative requirements. Competence in this unit, does not in itself result in a HRWL licence to operate this plant.

Forklift truck means a powered industrial truck equipped with lifting media made up of a mast and an elevating load carriage to which is attached a pair of fork arms or other attachments that can be raised 900 mm or more above the ground, but does not include a pedestrian-operated truck or a pallet truck.

A person performing this work is required to hold a forklift truck High Risk Work Licence (HRWL).

This unit requires a person operating a forklift truck to:

- plan for the work/task
- prepare for the work/task
- perform work/task
- pack up

Licensing/Regulatory Information

Legislative and regulatory requirements are applicable to this unit of competency.

This unit is based on the licensing requirements of Part 4.5 of the Model Work Health and Safety (WHS) Regulations and meets Commonwealth, State and Territory HRWL requirements.

The National Assessment Instrument (NAI) is the mandated assessment for the HRWL to operate the relevant licencing class as detailed in this unit.

Pre-requisite Unit

Not applicable

Competency Field

LIC - Licencing Units

Unit Sector

Not applicable

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1 Plan work/task

- 1.1 Task requirements are identified from work orders or equivalent and confirmed with relevant people and site inspection is conducted in accordance with workplace procedures
- 1.2 Work area operating surface is assessed to determine suitability for operational use of forklift truck in accordance with workplace procedures
- 1.3 Suitability of forklift truck and attachment working load limit (WLL) is determined for the load/s and work/task requirements in accordance with manufacturer requirements and workplace procedures
- 1.4 Working area is inspected and appropriate paths for operating the forklift truck and moving and placing load/s in work area are assessed and managed in accordance with workplace procedures
- 1.5 Hazard and risk control measures are identified and reported to relevant person/s in accordance with workplace procedures
- 1.6 Traffic management plan implementation is confirmed in accordance with workplace procedures
- 1.7 Appropriate communication procedures are identified with relevant people in accordance with workplace procedures
- 1.8 All work is confirmed to ensure coverage of work/task requirements for the relevant work area is in accordance with workplace procedures

- 2 Prepare for work/task**
- 2.1** Consultation with workplace person/s is maintained to ensure workplan is clear and consistent with site requirements in accordance with safe work procedures
 - 2.2** Weather and work environmental conditions are assessed to determine any impact on forklift truck operations in accordance with manufacturer requirements and safe work procedures
 - 2.3** Risk control measures for hazards identified are checked for implementation in accordance with safe work procedures
 - 2.4** Forklift truck is accessed in a safe manner in accordance with manufacturer requirements and workplace procedures
 - 2.5** Forklift truck logbook is checked in accordance with manufacturer, regulatory requirements and safe work procedures
 - 2.6** Pre-start checks are carried out and any damage and defects are reported, recorded and appropriate action is taken in accordance with safe work procedures and manufacturer requirements
 - 2.7** Forklift truck is set up correctly with any relevant attachments as per work plan in accordance with relevant manufacturer requirements including data plate and safe work procedures
 - 2.8** Operational checks are carried out and any damage and defects are reported, recorded and appropriate action is taken in accordance with manufacturer requirements and safe work procedures
 - 2.9** Hazard and risk control measures are checked for implementation and communicated to people in the work area in accordance with safe work procedures
- 3 Perform work/task**
- 3.1** Weight and positioning of load is assessed to ensure compliance with forklift truck data plate requirements and in accordance with safe work procedures

- 3.2 Forklift truck is operated safely in accordance with manufacturer requirements and safe work procedures
 - 3.3 Loads are monitored constantly when lifting, moving, lowering and placing to ensure stability of load and avoidance of hazards in accordance with safe work procedures
 - 3.4 Unplanned and unsafe situations are responded to in accordance with safe work procedures
 - 3.5 Loads are picked up, transported and placed using all forklift truck movements in accordance with safe work procedures
 - 3.6 Forklift truck is parked, switched off and isolated appropriately in accordance with manufacturer requirements and safe work procedures
- 4 Pack Up**
- 4.1 Forklift truck shutdown procedures are carried out in accordance with manufacturer requirements and safe work procedures
 - 4.2 Forklift truck is secured to prevent unauthorised access/use in accordance with safe work procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to TLILIC2001 Licence to operate a forklift truck

Links

Companion Volume Implementation Guide -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLILIC0003 Licence to operate a forklift truck

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria on at least one occasion and include:

- applying safe operating procedures for a forklift truck including:
 - maintaining safe operating speed
 - travelling with load lowered to an appropriate height for the terrain, operating surface and visibility in relation to direction of travel
- applying relevant forklift truck manufacturer requirements and data plate information and approved modifications to attachments fitted are in accordance with manufacturer requirements
- carrying out pre-start checks, including visual inspection which must include:
 - battery charge as required by manufacturer requirements
 - checking and interpreting data plate/s are relevant to the attachment and the forklift truck
 - checking for signs of paint separation and stressed welds indicating potential structural weakness
 - document evidence of damage
 - engine / mechanical fluid level checks including fuel as required by manufacturer requirements
 - ensuring availability of correct forklift truck logbook and updating records as required
 - ensuring forklift truck tyres or other attachment/s are securely fitted
 - ensuring seat and mirrors are adjusted appropriately and seat belt is functional
 - fluid leaks
 - lights are working effectively
 - safety equipment checks
 - signage and labels to ensure they are visible and legible
 - wheels and tyres for damage/correct inflation if applicable
- conducting and applying risk and hazard assessment strategies including:
 - insufficient lighting
 - other specific hazards including dangerous goods
 - overhead hazards and fixed structures, roof beams and doorways
 - restricted and poorly ventilated areas

- surface suitability based on forklift truck and task requirements
- the risk of collision with people, moving plant and fixed structures
- weather conditions
- complying with Commonwealth, State and Territory Work Health and Safety (WHS)/Occupational Health and Safety (OHS)/Occupational Safety and Health (OSH) legislation, regulations safe work and workplace procedures
- conducting operational checks, which must ensure:
 - all controls are located, identified and tested for functionality
 - all hydraulic functions operated to maximum extension and ensuring attachment (if fitted) movements and control functions are smooth and comply with operating requirements
 - hazard warning systems (e.g. reversing beepers, lights and horns) are functional
 - recording and maintaining accurate information relating to forklift truck operations
 - safety devices as fitted
 - start-up is in accordance with manufacturer requirements
 - steering, transmission and brake functions comply with operating requirements
 - there are no unusual noises
- confirming and following traffic management plan procedures relevant to their role in the work area
- conducting relevant procedures for refuelling and isolating fuel/power source as per manufacturer requirements using appropriate PPE
- determining relevant lifting attachment to perform work/task
- determining lift requirements including:
 - positioning of unusually balanced/shaped loads
 - centre of gravity
 - dynamic nature of load
 - tyre/attachment positioning
 - weight
- ensuring risk control measures within the work area are effective as per workplace procedures
- identifying, isolating and tagging out defective equipment and reporting to authorised person/s
- interpreting and confirming relevant documentation, workplace instructions, safety information, emergency procedures for the work task and relevant area
- interpreting workplace procedures in relation to various environmental conditions
- maintaining communication with other workplace personnel through using worksite procedures including:
 - audible and visual warning devices
 - signage
 - two-way radio
 - verbal instructions
 - written instructions
- maintaining three points of contact whilst accessing and egressing forklift truck and ensuring

- rungs / steps are free of hazards
- operating and monitoring safe forklift truck operations using minimum 250kg dynamic and non-dynamic loads that include:
 - aligning tynes/attachment to load
 - carrying out a lift to 75% of the maximum height
 - conducting trial lift to ensure forklift truck and load are stable, and load is safe to move
 - correctly using horns and mirrors in workplace
 - correctly positioning and using an observer to assist when operating with a load that may restrict vision or be placed out of vision of the operator
 - driving applicable to conditions and moving loads safely
 - driving a forklift truck safely with load in forward and reverse, while maintaining visibility through an obstacle course including:
 - an 'S' bend with a minimum 90 degrees left and right turn
 - ensuring load/s remains stable through pick up, transport and placement
 - forklift truck speed is appropriate to load and surroundings
 - lowering dynamic and non-dynamic loads to appropriate height for travel in forward and reverse
 - picking up, driving, manoeuvring and placing dynamic and non-dynamic loads safely at various heights within a compliant racking system
 - picking up, driving, manoeuvring and placing dynamic and non-dynamic loads safely into/onto an elevated, flat, stable area
 - tilting mast (or forks if applicable) to ensure balance of load
 - using gluts/dunnage appropriately and lowering load safely
 - using tilt and side shift (where fitted) safely to manoeuvre dynamic and non-dynamic loads into allocated space
 - reporting to relevant person/s on site risk control measures that are not in place or are deficient
 - setting up an exclusion zone
 - securely parking forklift truck and isolating in appropriate position including:
 - minimising possible access by unauthorised person/s
 - tynes/attachment lowered to required position in accordance with manufacturer requirements
 - park brake applied
 - switching off, isolating fuel/power source and removing key according to workplace procedures
 - shutting down a forklift truck in accordance with manufacturer requirements and workplace procedures

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- Australian and industry standards, codes of practice and guidelines to safely operate a forklift truck
- communication procedures including:
 - audible and visual warning devices
 - hand signals
 - questioning techniques
 - signage
 - traffic warning systems
 - two-way radio
 - written instructions
- forklift truck characteristics and capabilities, manufacturer requirements and instructions for any attachments
- impact of the following on the operation of the forklift truck including:
 - failure/loss of control including brakes and steering
 - failure of equipment during forklift truck operations
 - forklift truck instability causes including:
 - deterioration of ground condition
 - overloading
 - pick up and placement of load
 - irregular loads
 - operating on ramps and uneven surfaces and in restricted spaces
 - use of forklift truck data plate and attachment data plate and appropriate methodology to determine weight of a load is appropriate for forklift truck and any attachment if fitted including the estimation or determination from:
 - labels on the actual load
 - markings on the actual load
 - paperwork such as consignment notes, running sheets and weighbridge dockets
 - weighing a carton and calculating load
- manufacturer requirements, instructions and operator's manual
- problems, and appropriate response procedures to unplanned and/or unsafe environmental conditions including:
 - wind
 - lightning
 - water/ice impacted surface/ground
 - rain
 - extreme heat
 - Ultra violet (UV) exposure
- problems and equipment faults, and implementing appropriate response procedures to unplanned and/or unsafe situations including:
 - lock out and tag out procedures
- relevant procedures for refuelling and recharging forklift truck using appropriate PPE

including:

- gas bottle
- connecting battery to charger and disconnecting battery from charger and reconnecting to forklift truck
- refuelling
- procedures for recording, reporting and maintaining workplace records and information
- risk assessment process including hierarchy of control:
 - elimination
 - substitution
 - isolation
 - engineering controls
 - administrative controls
 - personal protective equipment (PPE)
- safe use and compliance of different types of attachments including:
 - bale clamps
 - carpet spike for carpet rolls
 - drum carrier
 - jib attachment
 - paper roll clamps
 - personnel work platforms
 - rotators
 - slippers/fork extensions on tynes
- suitability and lifting capability of the attachment to be used
- shut down procedures for a forklift truck in accordance with manufacturer requirements
- traffic management plan procedures and requirements
- typical routine problems encountered operating a forklift truck and associated equipment, and adjustments required for correction
- workplace procedures including work plan which may be verbal, documented/written, or electronically generated
- work area operating surface suitability including issues with:
 - backfilled ground
 - bitumen (damaged, cracked)
 - concrete (damaged, cracked)
 - hard compacted soil
 - potholes
 - railway tracks
 - rough uneven or difficult terrain including sloping surfaces, uneven surfaces, steel decks and grates
 - soft soils
 - trench covers
- Work Health and Safety (WHS)/Occupational Health and Safety (OHS)/Occupational Safety

and Health (OSH) requirements, safe work and workplace procedures

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in simulated workplace operational situations that reflect workplace conditions.

- Simulators must not be used in the assessment of this unit of competency.

Resources for assessment must include access to:

- a suitable forklift truck that complies with AS 2359 Powered industrial trucks and is in a safe/serviceable condition in accordance with manufacturer requirements
- associated equipment for forklift truck operations
- suitable dynamic and non-dynamic loads
- suitable compliant racking system
- relevant and appropriate materials, tools, equipment and personal protective equipment currently used in industry
- applicable documentation including:
 - approved codes of practice and relevant guidance material
 - relevant Australian technical standards
 - manufacturer guidelines (instructions, requirements or checklists), relevant industry standards and operating procedures (where applicable)

Links

Companion Volume Implementation Guide -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

TLILIC0024 Licence to operate a vehicle loading crane (capacity 10 metre tonnes and above)

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit specifies the skills and knowledge required to safely operate a vehicle loading crane with a Maximum Rated Capacity (MRC) of 10 metre tonnes or more. Competence in this unit, does not in itself result in a High-Risk Work Licence (HRWL) to operate this plant.

Vehicle loading crane means a crane mounted on a vehicle for loading and unloading the vehicle.

A person performing this work is required to hold a vehicle loading crane HRWL.

This unit requires a person operating a slewing vehicle loading crane with a MRC of 10 metre tonnes or more to:

- plan for the work/task
- prepare for the work/task
- perform work/task
- pack up.

Licensing/Regulatory Information

Legislative and regulatory requirements are applicable to this unit of competency.

This unit is based on the licensing requirements of Part 4.5 of the Model Work Health and Safety (WHS) regulations and meets Commonwealth, state and territory HRWL requirements.

The National Assessment Instrument (NAI) is the mandated assessment for the HRWL to operate the relevant licencing class as detailed in this unit.

Pre-requisite Unit

Not applicable.

Competency Field

LIC - Licencing Units.

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1 Plan work/task

- 1.1 Task requirements are identified from work orders or equivalent, a lift plan is confirmed with associated personnel and a site inspection is conducted in accordance with workplace procedures
- 1.2 Work area operating surface is confirmed to determine the quality of ground suitability for operational use of vehicle loading crane in accordance with workplace procedures
- 1.3 Vehicle loading crane Rated Capacity (RC) and the lifting gear Working Load Limit (WLL) are established for the load/s and work/task requirements in accordance with manufacturer requirements and workplace procedures
- 1.4 Appropriate paths for operating the vehicle loading crane and moving and placing load/s in work area are assessed and determined in accordance with workplace procedures
- 1.5 Relevant hazard identification and risk elimination/control measures are applied and advised to relevant personnel in accordance with workplace procedures
- 1.6 Traffic management plan implementation is confirmed and followed in accordance with workplace procedures
- 1.7 Appropriate communication procedures are identified and tested with associated personnel in accordance with workplace procedures
- 1.8 All tasks are confirmed to ensure requirements for the relevant work area in accordance with workplace procedures

- 2**
- Prepare for work/task**
- 1.9** Information required to ensure that lifting equipment and gear inspection, use, maintenance and storage complies with manufacturer requirements is obtained and interpreted
 - 2.1** Consultation with workplace personnel is established and maintained to ensure all crane and lifting operations are clear and consistent with site requirements in accordance with a lift plan and workplace procedures
 - 2.2** Risk control measures for hazards identified are checked for implementation in accordance with the lift plan and safe work procedures
 - 2.3** Vehicle loading crane controls are accessed safely in accordance with manufacturer requirements and safe work procedures
 - 2.4** Pre-start vehicle loading crane checks are carried out and any damage and defects are reported, recorded and appropriate action is taken in accordance with safe work procedures and manufacturer requirements
 - 2.5** Vehicle loading crane is set up correctly with any lifting gear as per the lift plan and in accordance with relevant manufacturer requirements, including load chart/s and safe work procedures
 - 2.6** Boom/jib and lifting gear are set up, as required, in accordance with specific manufacturer requirements and safe work procedures
 - 2.7** Vehicle loading crane is stabilised appropriately in accordance with the lift plan, relevant manufacturer requirements and safe work procedures
 - 2.8** Operational checks are carried out and any damage and defects are reported, recorded and appropriate action is taken in accordance with manufacturer requirements and safe work procedures
 - 2.9** Vehicle loading crane logbook is inspected and is correct for the crane type, is completed and signed, and required rectifications have been signed off in accordance with manufacturer requirements and safe work procedures
 - 2.10** Weather and work environment conditions are assessed to determine any impact on vehicle loading crane operations in accordance with manufacturer requirements and safe work procedures

- 2.11 Weight of load is identified, calculated or estimated
- 2.12 Derated WLL of lifting equipment resulting from selected slinging techniques is calculated
- 2.13 Suitable lifting points and slinging techniques are identified
- 2.14 Lifting equipment and gear is prepared for safe use
- 2.15 Load destination is confirmed for stability ensuring it is able to bear the load and is prepared for safe access and landing

3
Perform work/task

- 3.1 Lifts are determined within the RC of the vehicle loading crane in accordance with the load chart/s and lift plan
- 3.2 Boom/jib and hook block are safely positioned over the load following directions from associated personnel where applicable and in accordance with the lift plan and safe work procedures
- 3.3 Lifting equipment and gear are connected to the load and used safely in accordance with the lift plan, safe work procedures and manufacturer requirements
- 3.4 Test lift is carried out in accordance with safe work procedures
- 3.5 Loads are transferred using relevant crane movements and tag lines, as required, in accordance with lift plan and safe work procedures
- 3.6 Load and crane movement is monitored constantly and crane is operated safely in accordance with lift plan and safe work procedures
- 3.7 All required communication signals are correctly interpreted and followed whilst crane is operated in accordance with the lift plan and safe work procedures

3.8 Load is lowered and landed safely in accordance with lift plan and safe work procedures

3.9 Lifting gear is disconnected from load and crane is positioned safely and efficiently for next task in accordance with lift plan and safe work procedures

3.10 Lifting equipment and gear are inspected for defects, and defective items are isolated, tagged and reported

4 Pack up

4.1 Crane boom/jib, lifting gear and associated equipment are stowed and secured as required in accordance with manufacturer requirements and safe work procedures

4.2 Relevant motion locks and brakes are applied as required in accordance with manufacturer requirements and safe work procedures

4.3 Stabilisers are stowed and secured in accordance with manufacturer requirements and safe work procedures

4.4 Crane is shut down and secured to prevent unauthorised access/use in accordance with safe work procedures

4.5 Plates or packing are stowed and secured in accordance with safe work procedures

4.6 Shutdown crane checks are carried out in accordance with safe work procedures and manufacturer requirements

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the TLI Transport and Logistics Training Package

Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to TLILIC0002 Licence to operate a vehicle loading crane (capacity 10 metre tonnes and above).

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLILIC0024 Licence to operate a vehicle loading crane (capacity 10 metre tonnes and above)

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria on at least one occasion and include:

- applying relevant communication signals from associated personnel
- applying relevant crane movements, including:
 - boom/jib up and down (luffing)
 - catching load swing appropriately
 - positioning and using main hook and lifting gear to connect to load safely
 - raise and lower hoist
 - slew boom/jib
 - telescope in and out
- applying relevant mathematical calculations in conjunction with lift plan and load chart to determine radius requirements and relevant lifting gear to perform work/task to enable crane to be configured for load, including:
 - boom
 - stabiliser positioning
 - type of hook
- carrying out operational checks ensuring:
 - all controls are located, identified and tested for functionality
 - all hydraulic functions are operational
 - lifting gear movements and control functions are smooth and comply with lift plan
 - hazard warning systems, safety, audible and visual warning devices are checked to ensure they are functional, including:
 - reversing beepers
 - lights
 - horns
 - start-up is in accordance with manufacturer requirements and safe work procedures
 - there are no unusual noises
 - crane control functions comply with operating requirements
- communicating with other associated personnel through using appropriate worksite procedures, including:

- two-way radio
- active listening
- demonstrating and interpreting hand signals
- questioning to confirm understanding
- signage
- whistles
- written instructions
- completing pre-start checks, including:
 - engine/mechanical fluid level checks as required by manufacturer requirements
 - presence of correct logbook
 - evidence of damage
 - fluid leaks
 - lights work effectively
 - locating, identifying and confirming all controls
 - fire extinguisher
 - safety equipment checks
 - signage and labels to ensure they are visible and legible
 - checking for signs of paint separation and stressed welds indicating potential structural weakness
 - tyres and wheels for damage/wear and correct inflation
 - updating records as required
 - visual damage or equipment faults
- complying with Commonwealth, state and territory work health and safety (WHS)/occupational health and safety (OHS) legislation
- conducting and applying risk and hazard assessment strategies, including:
 - confirming work area operating surface suitability based on crane and task requirements
 - dynamic loads
 - ground conditions, including condition of surface and slopes
 - load swing
 - overloading
 - lifting and placing load
 - tyre pressures and tyre condition
 - asymmetric loads
 - overhead hazards, including electric lines and service pipes
 - restricted and poorly ventilated areas
 - risk of collision with people, moving plant and fixed structures
 - adequate lighting
 - traffic, including pedestrians, vehicles and other plant
 - weather conditions
- confirming and following traffic management plan procedure relevant to their role in the

work area

- identifying hazards and using appropriate risk controls and safety measures and equipment relevant to slinging loads
- selecting and inspecting appropriate lifting gear and applying slinging techniques appropriate to the type of load, its mass and centre of gravity
- identifying the Working Load Limit (WLL) tags of the lifting equipment and gear and calculating the deration of the WLL resulting from the slinging techniques applied
- using lifting gear, including flexible steel wire rope (FSWR) sling, synthetic sling, chain sling (including shortener), spreader bar or lifting beam, tag line, shackles and eyebolts, and using bends and hitches when slinging, including:
 - single sheet bend
 - clove hitch
 - bowline
- determining any defects or faults with operation of crane and reporting to relevant person/s
- ensuring risk control measures within the work area are effective in accordance with workplace procedures
- identifying, isolating and tagging out defective lifting equipment, and reporting to authorised person/s
- interpreting and confirming relevant documentation for the work task and relevant area
- maintaining three points of contact whilst accessing load surface area of vehicle loading crane and ensure rungs/steps are free of hazards
- monitoring load disconnection from hook is safe and ensuring no movement of controls or the load
- operating a vehicle loading crane configured to its Rated Capacity (RC) of 10 metre tonnes or more to lift and move four different loads using the main hook through an obstacle course using all crane operational controls while the load is in full view of the crane operator. Loads must consist of:
 - a load of >50% of the RC of the crane with a boom length of >75%, and
 - a round load with a minimum length of 3 metres and minimum weight of at least 200 kg, and
 - an asymmetrical load, and
 - stillage or cage containing loose items with a minimum weight of at least 200 kg
- positioning the vehicle loading crane for safe operation for:
 - application of the task
 - manoeuvring in the workplace
 - stability of the vehicle loading crane and the load
- positioning vehicle loading crane in relevant area for next task
- recording and maintaining accurate information relating to crane operations
- reporting to relevant person/s on site risk control measures that are not in place or deficient
- setting up and validating an exclusion zone
- shutting down a vehicle loading crane in accordance with manufacturer requirements and safe work procedures
- stabilising a vehicle loading crane for operation by:

- correctly positioning plates or packing
- deploying stabilisers
- establishing correct size plates or packing in accordance with lift plan
- levels are checked
- test-lifting load just clear of lifting plane to allow for checks to be safely made to ensure:
 - slinging is correct
 - all crane equipment is functioning properly
 - load centre of gravity is correct
 - loads of unusual shape or weight distribution are correctly slung
- using communications signals, including:
 - hoist down - hand and whistle and radio
 - hoist up - hand and whistle and radio
 - luff boom down - hand and whistle and radio
 - luff boom up - hand and whistle and radio
 - slew left - hand and whistle and radio
 - slew right - hand and whistle and radio
 - stop - hand and whistle and radio
 - telescope in - hand and whistle and two-way radio (where manufacturer requirements allow)
 - telescope out - hand and whistle and two-way radio (where manufacturer requirements allow).

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- appropriate worksite communication procedures, including:
 - listening
 - hand signals
 - questioning techniques
 - signage
 - two-way radios
 - written instructions
 - whistles
- characteristics and impact of factors affecting vehicle loading crane stability whilst moving loads, including:
 - overloading
 - poor load placement
 - asymmetric loads
 - tyre deflation/condition

- crane, lifting gear load chart/s and manufacturer requirements
- hazards, including:
 - pack up and crane stability, crane tipping and demolition sites
 - ground stability, including ground condition, recently filled trenches and slopes
 - insufficient lighting
 - obstacles or obstruction
 - other specific hazards and dangerous materials
 - overhead hazards, including:
 - electric lines
 - service pipes
 - fixed structures
 - vegetation (trees)
 - traffic, including pedestrians, vehicles and other plant
 - operations on unusual, uneven or difficult terrains
- lift impacting factors, including:
 - centre of gravity
 - dynamic nature of load
 - flex/deflexion of load
 - length
 - radius of lift
 - weight
- manufacturer requirements on stabiliser procedures
- manufacturer requirements and instructions on shutting down and packing up crane
- mathematical calculations to:
 - estimate loads
 - establish radius requirements
 - determine relevant lifting gear to perform work/task
- pre-start and operational checks required for a vehicle loading crane
- problems and appropriate response procedures to unplanned and/or unsafe situations and environmental conditions
- relevant documentation requirements and procedures for recording, reporting and maintaining workplace records and information
- relevant workplace instructions, safety information and emergency procedures
- risk assessment management and mitigation strategies, including hierarchy of control:
 - elimination
 - substitution
 - isolation
 - engineering controls
 - administrative controls
 - personal protective equipment (PPE)

- roles and responsibilities of duty holders in accordance with legislative obligations of WHS/OHS requirements and safe work/workplace procedures
- hazards commonly encountered while slinging:
 - instability of landing surfaces
 - overhead and underground hazards
 - insufficient lighting
 - traffic
 - weather
 - pedestrian traffic
 - work at heights
- selection, inspection, care, handling, application, limitations and storage of lifting equipment and gear:
 - Flexible Steel Wire Rope (FSWR) sling
 - synthetic sling
 - chain sling (including shortener)
 - spreader bar or lifting beam
 - tag line
 - shackles
 - eyebolts
- methods of making temporary connections to loads using fibre and/or synthetic ropes:
 - single sheet bend
 - clove hitch
 - bowline
- stability of load and avoidance of hazards, including:
 - allowing for boom deflection
 - boom/jib as low as possible
 - crane stability
 - gently accelerating and braking on slew/boom to minimise load swing
 - lowering load safely onto appropriate dunnage taking into consideration swing and restrictions of area
 - minimum boom/jib length
 - minimum speed
 - using handheld tag lines as required
 - identification of incorrect sling of load
- starting procedure of crane in accordance with manufacturer requirements
- set-up of:
 - jib
 - fly jib (where fitted)
- vehicle loading crane characteristics and capabilities to allow crane configuration to suit a range of loads
- weather bureau forecasts and environmental conditions that could impact operation,

including:

- lightning
- wind
- water impacted ground
- ultraviolet (UV) exposure
- work area suitability based on relevant ground reports, including:
 - backfilled ground
 - bitumen
 - concrete
 - hard compacted soil
 - pre-contaminated soils
 - rock
 - rough, uneven ground
 - soft soils
- workplace standards, requirements, policies and procedures for conducting operations for the vehicle loading crane.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

- Simulators must not be used in the assessment of this unit of competency.

Resources for assessment must include access to:

- vehicle loading crane with a RC of 10 metre tonnes or more in safe/serviceable working order in accordance with manufacturer specifications
- appropriate loads as outlined in the Performance Evidence requirements
- communication equipment, including:
 - two-way radios
 - whistles
- relevant personal protective equipment (PPE)
- relevant documentation for operating a vehicle loading crane with an RC of 10 metre tonnes or more, including:

- approved codes of practice and relevant guidance material
- relevant Australian technical standards
- manufacturer guidelines (instructions, requirements or checklists), relevant industry standards and operating procedures (where applicable).

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

TLILIC2014 Licence to drive a light rigid vehicle

Modification History

Release 2. This is the second release of this unit of competency in the TLI Transport and Logistics Training Package.

Modification of assessment conditions to remove an implementation barrier.

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit involves the skills and knowledge required to obtain a licence to drive a light rigid vehicle. It includes systematically and efficiently controlling all vehicle functions, monitoring traffic and road conditions, managing vehicle condition and performance, and effectively managing hazardous situations.

Types of light rigid vehicles include:

- a rigid truck above 4.5 tonnes GVM but less than or equal to 8 tonnes GVM or
- a rigid bus with less than or equal to 8 tonnes GVM or seats more than 12 adults, including the driver.

Assessment of this unit will be undertaken within a licensing examination conducted by, or under the authority of, the relevant state/territory driver licensing authority.

This unit applies to driving that is carried out in accordance with relevant state/territory driver licensing authority licence requirements and regulations for light rigid vehicles.

Driving is performed with limited or minimum supervision, and with limited accountability and responsibility for self and others in achieving the prescribed outcomes.

Driving involves the application of routine vehicle driving principles and procedures to maintain safety and to operate a light rigid vehicle across a variety of driving contexts.

The primary legislative requirements applicable to this unit of competency are state/territory legislation in relation to road use and driver licensing.

This unit addresses the knowledge and skills necessary for the granting of a Light Rigid Driver Licence.

Being awarded this unit of competency is a necessary requirement to obtain a Light Rigid Driver Licence but is only one of several criteria. Prospective licence applicants should check with the state/territory driver licensing authority for other criteria (such as licence tenure and medical fitness) to confirm other eligibility requirements before undertaking training and/or assessment.

Pre-requisite Unit

Not applicable.

Competency Field

LIC – Licensing

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Drive a light rigid vehicle

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1 Light rigid vehicle is started, steered, manoeuvred, positioned and stopped in accordance with traffic regulations, manufacturer instructions and relevant vehicle handling procedures
 - 1.2 Engine power is managed to ensure efficiency and performance, and to minimise engine and transmission damage
 - 1.3 Braking system of light rigid vehicle is managed and operated efficiently to ensure effective control of vehicle under all conditions
 - 1.4 Driving hazards are identified and/or anticipated and avoided or controlled through defensive driving
 - 1.5 Light rigid vehicle is driven in reverse, maintaining visibility and achieving accurate positioning
 - 1.6 Light rigid vehicle is parked, shutdown and safely secured in accordance with traffic regulations
 - 1.7 Load is safely and effectively restrained
- 2 Monitor traffic and road conditions
 - 2.1 Traffic and road conditions are constantly monitored and acted on to enable safe operation and to ensure no injury to people or damage to property, equipment, loads and facilities
 - 2.2 Interaction with other road users is conducted courteously in accordance with road rules to ensure safe and efficient traffic flow
 - 3 Monitor and
 - 3.1 Vehicle performance is maintained through pre-operational

maintain vehicle performance

inspections and vehicle checks

- 3.2 Appropriate signage, lights and equipment are checked for operational effectiveness and for conformity to prescribed traffic regulations

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions can be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to TLILIC2014B Licence to drive a light rigid vehicle.

Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLILIC2014 Licence to drive a light rigid vehicle

Modification History

Release 2. This is the second release of this unit of competency in the TLI Transport and Logistics Training Package.

Modification of assessment conditions to remove an implementation barrier.

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- anticipating and monitoring traffic hazards and taking appropriate action
- applying precautions and required action to eliminate, minimise or control identified hazards
- applying relevant procedures that reflect legislative requirements
- carrying out pre-operational vehicle checks including:
 - checking and topping up fluid levels
 - checking:
 - brakes
 - operation of vehicle lights and indicators
 - tyre pressures
 - visually checking vehicle
- communicating effectively with others
- handling vehicle including:
 - accelerating and braking
 - managing engine performance
 - operating vehicle controls, instruments and indicators
 - positioning and stopping a vehicle
 - reversing a vehicle
 - starting a vehicle
 - steering and manoeuvring a vehicle
 - using defensive driving techniques
- negotiating a range of complex traffic infrastructure (such as roundabouts, traffic lights, stalemate intersections, railway level crossings)
- reading and interpreting relevant instructions, procedures, information and signs.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- driving hazards and related defensive driving techniques
- efficient driving techniques
- engine power management and safe driving strategies
- light rigid vehicle controls, instruments and indicators, and their use
- light rigid vehicle handling procedures
- pre-operational checks carried out on vehicle and related action
- relevant state/territory driver licensing authority road rules, regulations, permit and licence requirements.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

Practical driving aspects must be assessed in a vehicle typical of the class as approved by the state/territory driver licensing authority. The use of simulators for driver testing is not permitted.

The assessor must use the mandatory assessment tool provided by the state/territory driver licensing authority to conduct the assessment for this unit, in accordance with licensing authority requirements

The state/territory driver licensing authority may prescribe approved routes, which must be used for the final assessment.

Assessment must occur in the following traffic and road conditions:

- on open and/or private roads with moderate inclines and declines
- typical weather conditions.

and may also include traffic and road conditions at a depot, base or warehouse.

Resources for assessment include:

- a range of relevant exercises, case studies and/or simulations
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- appropriate range of relevant on-road operational or workplace situations
- relevant materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

TLILIC2015 Licence to drive a medium rigid vehicle

Modification History

Release 2. This is the second release of this unit of competency in the TLI Transport and Logistics Training Package.

Modification of assessment conditions to remove an implementation barrier.

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit involves the skills and knowledge required to obtain a licence to drive a medium rigid vehicle. It includes systematically and efficiently controlling all vehicle functions, monitoring traffic and road conditions, managing vehicle condition and performance, and effectively managing hazardous situations.

Types of medium rigid vehicles include:

- two axle rigid trucks, not being a prime mover, above 8 tonnes GVM or
- a two axle bus above 8 tonnes GVM.

Assessment of this unit will be undertaken within a licensing examination conducted by, or under the authority of, the relevant state/territory driver licensing authority.

This unit applies to driving that is carried out in accordance with relevant state/territory driver licensing authority licence requirements and regulations for medium rigid vehicles.

Driving is performed with limited or minimum supervision, and with limited accountability and responsibility for self and others in achieving the prescribed outcomes.

Driving involves the application of routine vehicle driving principles and procedures to maintain safety and to operate a medium rigid vehicle across a variety of driving contexts.

The primary legislative requirements applicable to this unit of competency are state/territory legislation in relation to road use and driver licensing.

This unit addresses the knowledge and skills necessary for the granting of a Medium Rigid Driver Licence.

Being awarded this unit of competency is a necessary requirement to obtain a Medium Rigid Driver Licence but is only one of several criteria. Prospective licence applicants should check with the state/territory driver licensing authority for other criteria (such as licence tenure and medical fitness) to confirm other eligibility requirements before undertaking training and/or assessment.

Pre-requisite Unit

Not applicable.

Competency Field

LIC – Licensing

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Drive a medium rigid vehicle

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1 Medium rigid vehicle is started, steered, manoeuvred, positioned and stopped in accordance with traffic regulations, manufacturer instructions and relevant vehicle handling procedures
- 1.2 Engine power is managed to ensure efficiency and performance, and to minimise engine and transmission damage
- 1.3 Braking system of medium rigid vehicle is managed and operated efficiently to ensure effective control of vehicle under all conditions
- 1.4 Driving hazards are identified and/or anticipated and avoided or controlled through defensive driving
- 1.5 Medium rigid vehicle is driven in reverse, maintaining visibility and achieving accurate positioning
- 1.6 Medium rigid vehicle is parked, shutdown and safely secured according to traffic regulations
- 1.7 Load is safely and effectively restrained

2 Monitor traffic and road conditions

- 2.1 Traffic and road conditions are constantly monitored and acted on to enable safe operation and to ensure no injury to people or damage to property, equipment, loads and facilities
- 2.2 Interaction with other road users is conducted courteously in accordance with road rules to ensure safe and efficient traffic flow

3 Monitor and

- 3.1 Vehicle performance is maintained through pre-operational

maintain vehicle performance

inspections and vehicle checks

- 3.2 Appropriate signage, lights and equipment are checked for operational effectiveness and for conformity to prescribed traffic regulations

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions can be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit is equivalent to TLILIC2015B Licence to drive a medium rigid vehicle.

Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLILIC2015 Licence to drive a medium rigid vehicle

Modification History

Release 2. This is the second release of this unit of competency in the TLI Transport and Logistics Training Package.

Modification of assessment conditions to remove an implementation barrier.

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- anticipating and monitoring traffic hazards and taking appropriate action
- applying precautions and required action to eliminate, minimise or control identified hazards
- applying relevant procedures that reflect legislative requirements
- carrying out pre-operational vehicle checks including:
 - checking and topping up fluid levels
 - checking:
 - brakes
 - operation of vehicle lights and indicators
 - tyre pressures
 - visually checking vehicle
- communicating effectively with others
- handling vehicle including:
 - accelerating and braking
 - managing engine performance
 - operating vehicle controls, instruments and indicators
 - positioning and stopping a vehicle
 - reversing a vehicle
 - starting a vehicle
 - steering and manoeuvring a vehicle
 - using defensive driving techniques
- negotiating a range of complex traffic infrastructure (such as roundabouts, traffic lights, stalemate intersections, railway level crossings)
- reading and interpreting relevant instructions, procedures, information and signs.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- driving hazards and related defensive driving techniques
- efficient driving techniques
- engine power management and safe driving strategies
- medium rigid vehicle controls, instruments and indicators, and their use
- medium rigid vehicle handling procedures
- pre-operational checks carried out on vehicle and related action
- relevant state/territory driver licensing authority road rules, regulations, permit and licence requirements.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

Practical driving aspects must be assessed in a vehicle typical of the class as approved by the state/territory driver licensing authority. The use of simulators for driver testing is not permitted.

The assessor must use the mandatory assessment tool provided by the state/territory driver licensing authority to conduct the assessment for this unit, in accordance with licensing authority requirements.

The state/territory driver licensing authority may prescribe approved routes, which must be used for the final assessment.

Assessment must occur in the following traffic and road conditions:

- on open and/or private roads with moderate inclines and declines
- typical weather conditions.

and may also include traffic and road conditions at a depot, base or warehouse.

Resources for assessment include:

- a range of relevant exercises, case studies and/or simulations
- appropriate range of relevant on-road operational or workplace situations
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- relevant materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

TLIR4002 Source goods/services and evaluate contractors

Modification History

Release 2. This is the second release of this unit of competency in the TLI Transport and Logistics Training Package:

- Minor statement changes to PC 2.2, 2.4 and 2.7
- Minor statement changes from Performance Evidence
- Minor statement changes in Assessment Conditions.

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit involves the skills and knowledge required to source goods/services and to evaluate contractors in accordance with workplace policy and procedures.

The unit generally applies to those with responsibility for resource coordination and allocation and who lead individuals or teams.

It includes analysing supply requirements as well as evaluating and selecting appropriate potential contractors.

This unit involves discretion and judgement for self and others in planning and using resources, services and processes to achieve required outcomes.

Work is performed under general guidance on progress and work outcomes.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Competency Field

R – Contract Procurement

Unit Sector

Rail sector.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Analyse supply requirements

2 Evaluate potential contractors

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1 Purpose and specifications of required goods/services are identified
- 1.2 Criteria to evaluate potential or existing contractor performance is established
- 1.3 Quantities of required goods/services are determined
- 1.4 Frequency of ordering/requesting of goods/services is identified
- 2.1 Contractors of requested goods/materials/services are identified
- 2.2 Comparative costings for goods/materials/services are obtained in accordance with regulatory and organisational policies and procedures
- 2.3 Contractor ability to provide a consistent level of performance on repeat jobs is assessed
- 2.4 Contractors are evaluated in relation to established criteria and in accordance with regulatory and organisational policies and procedures
- 2.5 Prioritised contractor shortlist is established based on contractor capacity to provide a cost competitive quality service
- 2.6 Contractor selection process outcomes are documented including recommendations for actioning agreements/contracts with selected contractors
- 2.7 Information and data generated during selection process is filed and maintained in accordance with organisational policies and procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions can be found in the TLI Transport and logistics Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to TLIR4002A Source goods/services and evaluate contractors.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLIR4002 Source goods/services and evaluate contractors

Modification History

Release 2. This is the second release of this unit of competency in the TLI Transport and Logistics Training Package:

- Minor statement changes to PC 2.2, 2.4 and 2.7
- Minor statement changes from Performance Evidence
- Minor statement changes in Assessment Conditions.

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- applying relevant legislation and workplace policies and procedures
- communicating and negotiating effectively with others
- completing relevant documentation
- determining supply requirements
- modifying activities depending on operational contingencies, risk situations and environments
- monitoring and prioritising work activities in terms of planned schedule
- reading, interpreting and following relevant instructions, procedures and signs
- selecting and appropriately applying technology, information systems and procedures to workplace tasks
- sourcing appropriate personnel to supply goods/services in accordance with workplace requirements
- working systematically with required attention to detail without injury to self or others, or damage to goods or equipment.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- operational recording, reporting and statistical analysis systems and resources
- relevant chain of responsibility legislation, regulation and codes of practice requirements
- resource availability including processing capacity of equipment and software systems for data statistical analysis
- typical problems that can occur when sourcing goods and services and evaluating contractors,

and related appropriate action that can be taken

- workplace business policies and plans as they relate to supply contracts, including procedures for maintaining confidentiality
- workplace grievance and disputation handling policies and procedures
- workplace policies, procedures and protocols for sourcing and supplying goods/services and evaluating potential supply contractors.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (PPE) currently used in industry
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals.

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

TLIX0004X Administer inventory systems

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit of competency describes the skills and knowledge required to administer inventory systems. It includes identifying inventory systems, tracking inventory, planning and administering inventory systems and completing inventory audits and reports.

Inventory is defined as the quantity of goods owned and stored by an organisation that is intended either for resale or is raw materials and components used in producing goods that are then sold.

Inventory systems provide visibility and integration in the supply chain and they are used to record transactions associated with receiving, reducing or writing inventory off. An inventory system can include desktop software, barcode scanners, barcode labels, mobile devices and applications.

The unit is applicable to those with responsibilities for inventory systems within a supply chain. No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Competency Field

X - Logistics

Unit Sector

Cross sector

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1 Identify inventory systems**
 - 1.1** Software, applications and devices used in the inventory system are identified
 - 1.2** Third party inventory control operations are verified
 - 1.3** Demand forecasting methods and tools are determined
 - 1.4** Inventory system policies, procedures and processes are confirmed
- 2 Plan and administer inventory**
 - 2.1** Inventory characteristics are ascertained
 - 2.2** Stock specifications, locations, labels and reference numbers are validated using the inventory system
 - 2.3** Receipt and despatch stock is securely stored in designated locations and the inventory system is updated, as required
 - 2.4** Stock is monitored and reordered to meet optimum replenishment requirements, in accordance with organisational inventory procedures
 - 2.5** Stock is requisitioned and documentation is updated on the inventory system, as required
 - 2.6** Stock sorting, recycling and disposal is undertaken, in accordance with organisational inventory procedures
 - 2.7** Stock damage and losses against forecasts are assessed and investigations are completed into unacceptable cases
 - 2.8** Stock security is maintained, in accordance with organisational inventory procedures
- 3 Track inventory**
 - 3.1** Inventory is monitored and tracked using the inventory system
 - 3.2** Buyers are kept informed of stock levels, in accordance with organisational inventory procedures
 - 3.3** Inventory transactions are monitored, in accordance with organisational inventory procedures
 - 3.4** Reorder cycles are adjusted to maintain consistent

supply, as required

- 3.5 Discrepancies, out of specification and redirection opportunities are managed and reported using the inventory system
 - 3.6 Inventory reports are analysed and corrective action is taken, as required
 - 3.7 Vendor Managed Inventory (VMI) systems are used to manage inventory, as required
- 4 Complete inventory audits and reports**
- 4.1 Inventory audits and cycle counts are performed, in accordance with organisational inventory procedures
 - 4.2 Report on inventory system management is produced, in accordance with organisational inventory procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is not equivalent to TLIA3016 Use inventory systems to organise stock control.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLIX0004X Administer inventory systems

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria on at least one occasion and includes

- assessing and managing stock quality including analysing discrepancies, out of specification and redirection opportunities
- categorising and labelling stock
- checking inventory specifications
- ensuring handling, sorting, disposal and recycling of stock is performed
- following organisational inventory policies and procedures
- identifying inventory characteristics
- maintaining and managing optimum stock levels
- meeting inventory system documentation requirements
- monitoring stock security
- reading and interpreting information and data related to inventory systems
- recording and maintaining inventory information
- undertaking quality control
- using the inventory system including inventory software and applications
- utilising Vendor Managed Inventory (VMI) systems
- validating third party inventory control operations.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria and includes knowledge of

- features of inventory systems
- financial implications of inventory management
- inventory documentation and reporting requirements including those for discrepancies, out of specification and redirection opportunities
- inventory loss and damage control
- inventory policies and procedures
- inventory tracking and security
- layout of inventory storage areas

- maintenance and monitoring of stock quality and levels
- methods for categorising and labelling inventory
- principles of inventory management
- principles of quality control
- reorder cycles
- storage conditions for the maintenance of inventory including product life cycles, maximising use, rotation and replenishment requirements
- third party inventory control operations
- types of inventory systems
- valuation methods for different inventory items
- Vendor Managed Inventory (VMI) systems.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so. Where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to a range of

- exercises, case studies or other simulations
- materials, tools and equipment used in industry including:
 - inventory systems and stock control equipment and tools
- documentation including organisational policies and procedures, industry standards, regulations, codes of practice, operational manuals and equipment specifications.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

TLIX0013X Maintain stock control and receivals

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit of competency describes the skills and knowledge required to maintain stock control and receivals. It includes establishing supply arrangements, monitoring and maintaining stock, processing receivals and storing stock, determining stock wastage and discrepancies and performing stock audits and reporting.

Stock control involves the monitoring and managing of an organisation's stock. It applies to all stock at every stage of the production process from purchasing and delivery to using and reordering stock.

Receivals is the function of checking items delivered as new stock or supplies. It requires the inspection of goods and materials for quality, condition and quantity and the allocating of space in the storage facility or warehouse.

The unit is applicable to those with responsibilities for stock control and/or receivals within a supply chain.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Competency Field

X - Logistics

Unit Sector

Cross sector

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential Performance criteria describe the performance needed to

outcomes.

demonstrate achievement of the element.

1 Establish supply arrangements

- 1.1 Approved business data, forecasting methods and measures to calculate stock levels for standard business periods, peak seasons and special events are established
- 1.2 Optimum supply arrangements are sourced and negotiated using approved purchasing specifications
- 1.3 Stock quantities and cost effective terms of purchase are established
- 1.4 Agreements are recorded, in accordance with stock control and receipt procedures

2 Monitor and maintain stock

- 2.1 Stock control systems and equipment to administer and monitor ordering processes and procedures, including real time tracking information from stock handling and data collection technologies, are used
- 2.2 Stock levels and reorder cycles are monitored and maintained using approved forecasting methods and tools
- 2.3 Evaluation of stock against specifications, including adjusting sources of supply, is undertaken, as required
- 2.4 Optimal safety stock placement and service level optimisation is monitored, in accordance with the continuity plan and stock control and receipt procedures
- 2.5 Stock levels are recorded and reported, in accordance with stock control and receipt procedures

3 Process receivals and store stock

- 3.1 Orders for stock are processed and documented, including checking and recording receivals, against purchase and supply agreements
- 3.2 Stock is distributed, transported and stored in an approved storage area using safe manual handling techniques
- 3.3 Stock is inspected for quality, use by dates and damage
- 3.4 Stock is labelled and any excess is reported, in accordance with stock control and receipt

procedures

- | | | |
|--|------------|--|
| 4 Determine stock wastage and discrepancies | 4.1 | Control system and procedures for stock with high wastage or loss is implemented |
| | 4.2 | Stock is rotated for maximum use and minimum wastage, as required |
| | 4.3 | Excess or spoilt stock, including hazardous substances, is disposed of safely, in accordance with stock control and receipt procedures |
| | 4.4 | Stock losses and discrepancies are recorded, in accordance with stock control and receipt procedures, and security measures are reviewed |
| 5 Perform stock audits and report | 5.1 | Stock audits are performed and reports are produced within designated timeframes |
| | 5.2 | Audit findings and discrepancies in stock and receivals are reported to approved personnel |

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces but is not equivalent to TLIA3038 Control and order stock and TLIA3039 Receive and store stock.

Links

Companion Volume Implementation Guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLIX0013X Maintain stock control and receivals

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria on at least one occasion and includes

- assessing stock loss, wastage, excesses and discrepancies
- completing stock orders and receivals within established timelines
- disposing of stock safely including hazardous substances
- forecasting stock and receivals using approved methods and tools
- identifying supply sources for different types of products
- identifying third party inventory control operations
- implementing cost effective stock purchasing and control systems
- maintaining stock and receival data and records
- monitoring optimal safety stock placement and service level optimisation
- monitoring stock control systems, stock quality and cost effectiveness of supplies
- performing stock audits
- producing stock control reports
- receiving, storing, monitoring and maintaining stock levels over life cycle periods
- undertaking supplier and customer relationship management
- utilising stock handling, receivals and data collection technologies
- working with continuity plan and stock control and receival policies and procedures.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria and includes knowledge of

- continuity plans
- contractual and preferred supplier arrangements
- disposal methods for stock and waste including hazardous substances
- stock control and receivals policies and procedures
- principles of stock control including:
 - approaches to calculating stock levels and replenishment requirements
 - factors that may influence purchase specifications

- forecasting methods for calculating inventory consumption
- methods and tools for calculating cost effective stock quantities including
 - methods of stock control including FIFO (First In, First Out) and LIFO (Last In, First Out)
 - standard measures and formulas for yield testing
 - stock control systems including bin card system, imprest system, integrated point of sale system and ledger systems
- product life and storage requirements for specific stock
- real time information using stock data technologies
- report requirements on stock loss, wastage, excesses and discrepancies
- safe manual handling techniques
- safe stock placement and service level optimisation
- security measures for stock including storage and tracking
- stock control audits
- stock ordering and delivery processes
- stock quality control
- stock reorder cycles for standard business periods, peak seasons and special events
- supplier and customer relationship management
- supply sources for different types of products
- types of computerised stock control systems, their functions and features.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so. Where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to a range of

- exercises, case studies or other simulations
- materials, tools and equipment used in industry including:
 - access to suppliers with whom the learner can interact, commercial purchase specifications, stock control procedures and reports and costs and contractual documentation used for the purchase of stock
 - stock control software systems and applications
- documentation including organisational policies and procedures, industry standards, regulations, codes of practice, operational manuals and equipment specifications.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

FWP Forest and Wood Products Training Package

Modification History

Not applicable.

Credit Arrangements

Qualification code	Qualification Title	Credit arrangement details
FWP10116	Certificate I in Forest and Forest Products	At the time of endorsement of this Training Package no national credit arrangements exist.
FWP20116	Certificate II in Forest Growing and Management	At the time of endorsement of this Training Package no national credit arrangements exist.
FWP20216	Certificate II in Harvesting and Haulage	At the time of endorsement of this Training Package no national credit arrangements exist.
FWP20316	Certificate II in Sawmilling and Processing	At the time of endorsement of this Training Package no national credit arrangements exist.
FWP20416	Certificate II in Wood Panel Products	At the time of endorsement of this Training Package no national credit arrangements exist.
FWP20516	Certificate II in Timber Manufactured Products	At the time of endorsement of this Training Package no national credit arrangements exist.
FWP20616	Certificate II in Timber Merchandising	At the time of endorsement of this Training Package no national credit arrangements exist.
FWP20716	Certificate II in Timber Truss and Frame Design and Manufacture	At the time of endorsement of this Training Package no national credit arrangements exist.
FWP30116	Certificate III in Forest Growing and Management	At the time of endorsement of this Training Package no national credit arrangements exist.

FWP30216	Certificate III in Harvesting and Haulage	At the time of endorsement of this Training Package no national credit arrangements exist.
FWP30316	Certificate III in Sawmilling and Processing	At the time of endorsement of this Training Package no national credit arrangements exist.
FWP30416	Certificate III in Wood Panel Products	At the time of endorsement of this Training Package no national credit arrangements exist.
FWP30516	Certificate III in Timber Manufactured Products	At the time of endorsement of this Training Package no national credit arrangements exist.
FWP30616	Certificate III in Timber Merchandising	At the time of endorsement of this Training Package no national credit arrangements exist.
FWP30716	Certificate III in Sawdoctoring	At the time of endorsement of this Training Package no national credit arrangements exist.
FWP30816	Certificate III in Woodmachining	At the time of endorsement of this Training Package no national credit arrangements exist.
FWP30916	Certificate III in Timber Truss and Frame Design and Manufacture	At the time of endorsement of this Training Package no national credit arrangements exist.
FWP40116	Certificate IV in Forest Operations	At the time of endorsement of this Training Package no national credit arrangements exist.
FWP40216	Certificate IV in Timber Processing	At the time of endorsement of this Training Package no national credit arrangements exist.
FWP40316	Certificate IV in Timber Truss and Frame Manufacture	At the time of endorsement of this Training Package no national credit arrangements exist.
FWP40416	Certificate IV in Timber Truss and Frame Design	At the time of endorsement of this Training Package no national credit arrangements exist.

FWP50116	Diploma of Forest and Forest Products	At the time of endorsement of this Training Package no national credit arrangements exist.
FWP50316	Diploma of Timber Truss and Frame Manufacture	At the time of endorsement of this Training Package no national credit arrangements exist.
FWP50416	Diploma of Timber Truss and Frame Design	At the time of endorsement of this Training Package no national credit arrangements exist.
FWP60116	Advanced Diploma of Forest Industry Sustainability	At the time of endorsement of this Training Package no national credit arrangements exist.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

FWPSS00039 Skill Set for Hydraulic Maintenance of Saw Technology

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Description

This skill set reflects the roles of Saw Technicians to inspect, test, maintain and troubleshoot advanced hydraulic systems and components on sawing machine centres.

Pathways Information

These units of competency may provide credit towards FWP31019 Certificate III in Saw Technology. They may also provide pathways to higher level technical qualifications or opportunities to transition into related manufacturing and engineering areas.

Licensing/Regulatory Information

No licensing or certification requirements apply to this skill set at the time of publication.

Skill Set Requirements

An asterisk (*) next to the unit code indicates that there are prerequisite requirements which must be met when packaging the qualification. Please refer to the Prerequisite requirements table for details. All prerequisite units are included in the skill set.

- MEM09002* Interpret technical drawing
- MEM11011* Undertake manual handling
- MEM12023* Perform engineering measurements
- MEM12024* Perform computations
- MEM13003* Work safely with industrial chemicals and materials
- MEM13015 Work safely and effectively in manufacturing and engineering
- MEM14006* Plan work activities
- MEM16006* Organise and communicate information
- MEM18001* Use hand tools
- MEM18002* Use power tools/hand held operations

- MEM18003* Use tools for precision work
- MEM18006* Perform precision fitting of engineering components
- MEM18020* Maintain hydraulic system components
- MEM18021* Maintain hydraulic systems
- MEM18055* Dismantle, replace and assemble engineering components
- MEM18071* Connect and disconnect fluid conveying system components

Prerequisite requirements

Unit of competency	Prerequisite requirement
MEM09002 Interpret technical drawing	MEM12023 Perform engineering measurements MEM12024 Perform computations MEM13015 Work safely and effectively in manufacturing and engineering MEM16006 Organise and communicate information
MEM11011 Undertake manual handling	MEM13015 Work safely and effectively in manufacturing and engineering MEM16006 Organise and communicate information
MEM12023 Perform engineering measurements	MEM13015 Work safely and effectively in manufacturing and engineering MEM16006 Organise and communicate information
MEM12024 Perform computations	MEM13015 Work safely and effectively in manufacturing and engineering MEM16006 Organise and communicate information
MEM13003 Work safely with industrial chemicals and materials	MEM11011 Undertake manual handling MEM13015 Work safely and effectively in manufacturing and engineering MEM16006 Organise and communicate information
MEM14006 Plan work activities	MEM13015 Work safely and effectively in manufacturing and engineering MEM16006 Organise and communicate information
MEM16006 Organise and communicate information	MEM13015 Work safely and effectively in manufacturing and engineering
MEM18001 Use hand tools	MEM11011 Undertake manual handling MEM13015 Work safely and effectively in

	<p>manufacturing and engineering</p> <p>MEM16006 Organise and communicate information</p>
MEM18002 Use power tools/hand held operations	<p>MEM11011 Undertake manual handling</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM16006 Organise and communicate information</p>
MEM18003 Use tools for precision work	<p>MEM11011 Undertake manual handling</p> <p>MEM12023 Perform engineering measurements</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM16006 Organise and communicate information</p> <p>MEM18001 Use hand tools</p> <p>MEM18002 Use power tools/hand held operations</p>
MEM18006 Perform precision fitting of engineering components	<p>MEM09002 Interpret technical drawing</p> <p>MEM11011 Undertake manual handling</p> <p>MEM12023 Perform engineering measurements</p> <p>MEM12024 Perform computations</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM14006 Plan work activities</p> <p>MEM16006 Organise and communicate information</p> <p>MEM18001 Use hand tools</p> <p>MEM18002 Use power tools/hand held operations</p> <p>MEM18003 Use tools for precision work</p> <p>MEM18055 Dismantle, replace and assemble engineering components</p>
MEM18020 Maintain hydraulic system components	<p>MEM09002 Interpret technical drawing</p> <p>MEM11011 Undertake manual handling</p> <p>MEM12023 Perform engineering measurements</p> <p>MEM12024 Perform computations</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM14006 Plan work activities</p> <p>MEM16006 Organise and communicate information</p>

	<p>MEM18001 Use hand tools</p> <p>MEM18002 Use power tools/hand held operations</p> <p>MEM18003 Use tools for precision work</p> <p>MEM18006 Perform precision fitting of engineering components</p> <p>MEM18055 Dismantle, replace and assemble engineering components</p>
MEM18021 Maintain hydraulic systems	<p>MEM09002 Interpret technical drawing</p> <p>MEM11011 Undertake manual handling</p> <p>MEM12023 Perform engineering measurements</p> <p>MEM12024 Perform computations</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM14006 Plan work activities</p> <p>MEM16006 Organise and communicate information</p> <p>MEM18001 Use hand tools</p> <p>MEM18002 Use power tools/hand held operations</p> <p>MEM18003 Use tools for precision work</p> <p>MEM18006 Perform precision fitting of engineering components</p> <p>MEM18020 Maintain hydraulic system components</p> <p>MEM18055 Dismantle, replace and assemble engineering components</p>
MEM18055 Dismantle, replace and assemble engineering components	<p>MEM09002 Interpret technical drawing</p> <p>MEM11011 Undertake manual handling</p> <p>MEM12023 Perform engineering measurements</p> <p>MEM13015 Work safely and effectively in manufacturing and engineering</p> <p>MEM16006 Organise and communicate information</p> <p>MEM18001 Use hand tools</p> <p>MEM18002 Use power tools/hand held operations</p>

MEM18071 Connect and disconnect fluid conveying system components	MEM11011 Undertake manual handling MEM13003 Work safely with industrial chemicals and materials MEM13015 Work safely and effectively in manufacturing and engineering MEM14006 Plan work activities MEM16006 Organise and communicate information MEM18001 Use hand tools
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Target Group

This skill set is for Saw Technicians who inspect, test, maintain and troubleshoot hydraulic systems and components on sawing machine centres to achieve sawing production rates and product tolerances.

Suggested words for Statement of Attainment

These competencies from the *MEM Training Package* meet the industry requirements to conduct hydraulic maintenance of sawing machine centres.

FWPSS00040 Skill Set for Pneumatic Maintenance of Saw Technology

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

Description

This skill set reflects the roles of Saw Technicians to inspect, test, maintain and troubleshoot advanced pneumatic systems and components on sawing machine centres.

Pathways Information

These units of competency may provide credit towards FWP31019 Certificate III in Saw Technology. They may also provide pathways to higher level technical qualifications or opportunities to transition into related manufacturing and engineering areas.

Licensing/Regulatory Information

No licensing or certification requirements apply to this skill set at the time of publication.

Skill Set Requirements

An asterisk (*) next to the unit code indicates that there are prerequisite requirements which must be met when packaging the qualification. Please refer to the Prerequisite requirements table for details. All prerequisite units are included in the skill set.

- MEM09002* Interpret technical drawing
- MEM11011* Undertake manual handling
- MEM12023* Perform engineering measurements
- MEM12024* Perform computations
- MEM13015 Work safely and effectively in manufacturing and engineering
- MEM14006* Plan work activities
- MEM16006* Organise and communicate information
- MEM18001* Use hand tools
- MEM18002* Use power tools/hand held operations
- MEM18003* Use tools for precision work

- MEM18006* Perform precision fitting of engineering components
- MEM18018* Maintain pneumatic system components
- MEM18019* Maintain pneumatic systems
- MEM18055* Dismantle, replace and assemble engineering components

Prerequisite requirements

Unit of competency	Prerequisite requirement
MEM09002 Interpret technical drawing	MEM12023 Perform engineering measurements MEM12024 Perform computations MEM13015 Work safely and effectively in manufacturing and engineering MEM16006 Organise and communicate information
MEM11011 Undertake manual handling	MEM13015 Work safely and effectively in manufacturing and engineering MEM16006 Organise and communicate information
MEM12023 Perform engineering measurements	MEM13015 Work safely and effectively in manufacturing and engineering MEM16006 Organise and communicate information
MEM12024 Perform computations	MEM13015 Work safely and effectively in manufacturing and engineering MEM16006 Organise and communicate information
MEM14006 Plan work activities	MEM13015 Work safely and effectively in manufacturing and engineering MEM16006 Organise and communicate information
MEM16006 Organise and communicate information	MEM13015 Work safely and effectively in manufacturing and engineering
MEM18001 Use hand tools	MEM11011 Undertake manual handling MEM13015 Work safely and effectively in manufacturing and engineering MEM16006 Organise and communicate information
MEM18002 Use power tools/hand held operations	MEM11011 Undertake manual handling MEM13015 Work safely and effectively in manufacturing and engineering

	MEM16006 Organise and communicate information
MEM18003 Use tools for precision work	MEM11011 Undertake manual handling MEM12023 Perform engineering measurements MEM13015 Work safely and effectively in manufacturing and engineering MEM16006 Organise and communicate information MEM18001 Use hand tools MEM18002 Use power tools/hand held operations
MEM18006 Perform precision fitting of engineering components	MEM09002 Interpret technical drawing MEM11011 Undertake manual handling MEM12023 Perform engineering measurements MEM12024 Perform computations MEM13015 Work safely and effectively in manufacturing and engineering MEM14006 Plan work activities MEM16006 Organise and communicate information MEM18001 Use hand tools MEM18002 Use power tools/hand held operations MEM18003 Use tools for precision work MEM18055 Dismantle, replace and assemble engineering components
MEM18018 Maintain pneumatic system components	MEM09002 Interpret technical drawing MEM11011 Undertake manual handling MEM12023 Perform engineering measurements MEM12024 Perform computations MEM13015 Work safely and effectively in manufacturing and engineering MEM14006 Plan work activities MEM16006 Organise and communicate information MEM18001 Use hand tools MEM18002 Use power tools/hand held operations MEM18003 Use tools for precision work MEM18006 Perform precision fitting of engineering components

	MEM18055 Dismantle, replace and assemble engineering components
MEM18019 Maintain pneumatic systems	MEM09002 Interpret technical drawing MEM11011 Undertake manual handling MEM12023 Perform engineering measurements MEM12024 Perform computations MEM13015 Work safely and effectively in manufacturing and engineering MEM14006 Plan work activities MEM16006 Organise and communicate information MEM18001 Use hand tools MEM18002 Use power tools/hand held operations MEM18003 Use tools for precision work MEM18006 Perform precision fitting of engineering components MEM18018 Maintain pneumatic system components MEM18055 Dismantle, replace and assemble engineering components
MEM18055 Dismantle, replace and assemble engineering components	MEM09002 Interpret technical drawing MEM11011 Undertake manual handling MEM12023 Perform engineering measurements MEM13015 Work safely and effectively in manufacturing and engineering MEM16006 Organise and communicate information MEM18001 Use hand tools MEM18002 Use power tools/hand held operations

Target Group

This skill set is for Saw Technicians who inspect, test, maintain and troubleshoot pneumatic systems and components on sawing machine centres to achieve sawing production rates and product tolerances.

Suggested words for Statement of Attainment

These competencies from the *MEM Training Package* meet the industry requirements to conduct pneumatic maintenance of sawing machine centres.

FWPSS00041 Cutting Timber to Length and Angle Skill Set

Modification History

Release	Comments
Release 1	This version released with FWP Training Package Version 6.0.

Description

This skill set is designed to cover the knowledge and skills required to cut timber to specified lengths and angles for use in the fabrication of timber wall frames and/or floor or roof trusses. It includes applying knowledge and skills to work and handle materials safely in a manufacturing environment.

Pathways Information

These units of competency provide credit towards FWP30920 Certificate III in Timber Frame or Truss Manufacture from the FWP Forest and Wood Products Training Package.

Licensing/Regulatory Information

No licensing, legislative or certification requirements apply to this skill set at the time of publication.

Skill Set Requirements

- FWPCOR2205 Follow WHS policies and procedures
- FWPCOT3226 Assess timber for manufacturing potential
- FWPCOT3234 Cut material using CNC sizing machines
- FWPTMM2205 Cut material to length and angles
- TLID1001 Shift materials safely using manual handling methods

Target Group

This skill set is for entry level fabricators working in the timber frame and truss manufacturing industry.

Suggested words for Statement of Attainment

These competencies from the *FWP Forest and Wood Products Training Package* and the *TLI Transport and Logistics Training Package* meet the industry requirements for cutting timber for the fabrication of timber frames and trusses.

FWPSS00042 Timber Wall Frame Manufacture Skill Set

Modification History

Release	Comments
Release 1	This version released with FWP Training Package Version 6.0.

Description

This skill set is designed to cover the knowledge and skills required to assemble timber wall frames. It includes applying knowledge and skills to work and handle materials safely in a manufacturing environment, assess timber and apply information from fabrication plans to the assembly of timber wall frames.

Pathways Information

These units of competency provide credit towards FWP30920 Certificate III in Timber Frame or Truss Manufacture from the FWP Forest and Wood Products Training Package.

Licensing/Regulatory Information

No licensing, legislative or certification requirements apply to this skill set at the time of publication.

Skill Set Requirements

- CPCCOM1015 Carry out measurements and calculations
- FWPCOR2205 Follow WHS policies and procedures
- FWPCOT2257 Use hand-held tools
- FWPCOT3226 Assess timber for manufacturing potential
- FWPCOT3308 Assemble timber wall frames
- FWPTMM3213 Read and interpret timber truss or wall frame fabrication plans
- TLID1001 Shift materials safely using manual handling methods

Target Group

This skill set is for fabricators working in the timber frame and truss manufacturing industry who assemble timber wall frames.

Suggested words for Statement of Attainment

These competencies from the *FWP Forest and Wood Products Training Package*, *TLI Transport and Logistics Training Package* **and** the *CPC Construction, Plumbing and Services Training Package* meet the industry requirements for assembling timber wall frames.

FWPSS00043 Timber Roof Truss Manufacture Skill Set

Modification History

Release	Comments
Release 1	This version released with FWP Training Package Version 6.0.

Description

This skill set is designed to cover the knowledge and skills required to assemble timber roof trusses. It includes applying knowledge and skills to work and handle materials safely in a manufacturing environment, assess timber and apply information from fabrication plans to the assembly of timber roof trusses.

Pathways Information

These units of competency provide credit towards FWP30920 Certificate III in Timber Frame or Truss Manufacture from the FWP Forest and Wood Products Training Package.

Licensing/Regulatory Information

No licensing, legislative or certification requirements apply to this skill set at the time of publication.

Skill Set Requirements

- CPCCOM1015 Carry out measurements and calculations
- FWPCOR2205 Follow WHS policies and procedures
- FWPCOT2257 Use hand-held tools
- FWPCOT3226 Assess timber for manufacturing potential
- FWPCOT3309 Assemble timber roof trusses
- FWPTMM3213 Read and interpret timber truss or wall frame fabrication plans
- TLID1001 Shift materials safely using manual handling methods

Target Group

This skill set is for fabricators working in the timber frame and truss manufacturing industry who assemble timber roof trusses.

Suggested words for Statement of Attainment

These competencies from the *FWP Forest and Wood Products Training Package*, *TLI Transport and Logistics Training Package* and the *CPC Construction, Plumbing and Services Training Package* meet the industry requirements for assembling timber roof trusses.

FWPSS00044 Timber Floor Truss Manufacture Skill Set

Modification History

Release	Comments
Release 1	This version released with FWP Training Package Version 6.0.

Description

This skill set is designed to cover the knowledge and skills required to assemble timber floor trusses. It includes applying knowledge and skills to work and handle materials safely in a manufacturing environment, assess timber and apply information from fabrication plans to the assembly of timber floor trusses.

Pathways Information

These units of competency provide credit towards FWP30920 Certificate III in Timber Truss or Frame Manufacture from the FWP Forest and Wood Products Training Package.

Licensing/Regulatory Information

No licensing, legislative or certification requirements apply to this skill set at the time of publication.

Skill Set Requirements

- CPCCOM1015 Carry out measurements and calculations
- FWPCOR2205 Follow WHS policies and procedures
- FWPCOT2257 Use hand-held tools
- FWPCOT3226 Assess timber for manufacturing potential
- FWPTMM3213 Read and interpret timber truss or wall frame fabrication plans
- FWPTMM3214 Assemble timber floor trusses
- TLID1001 Shift materials safely using manual handling methods

Target Group

This skill set is for fabricators working in the timber frame and truss manufacturing industry who assemble timber floor trusses.

Suggested words for Statement of Attainment

These competencies from the *FWP Forest and Wood Products Training Package*, *TLI Transport and Logistics Training Package* and the *CPC Construction, Plumbing and Services Training Package* meet the industry requirements for assembling timber floor trusses.

FWPSS00045 Stacking and Storing Timber Frames and Trusses Skill Set

Modification History

Release	Comments
Release 1	This version released with FWP Training Package Version 6.0.

Description

This skill set is designed to cover the knowledge and skills required to stack and store assembled timber wall frames and/or roof or floor trusses. It also includes applying knowledge and skills to work and handle materials safely in a manufacturing environment.

Pathways Information

These units of competency provide credit towards FWP30920 Certificate III in Timber Frame or Truss Manufacture from the FWP Forest and Wood Products Training Package.

Licensing/Regulatory Information

No licensing, legislative or certification requirements apply to this skill set at the time of publication.

Skill Set Requirements

- FWPCOR2205 Follow WHS policies and procedures
- FWPCOT2206 Stack and bind material
- FWPCOT2255 Store materials
- TLID1001 Shift materials safely using manual handling methods

Target Group

This skill set is for fabricators working in the timber frame and truss manufacturing industry who stack and store assembled frames and trusses for dispatch.

Suggested words for Statement of Attainment

These competencies from the *FWP Forest and Wood Products Training Package* and *TLI Transport and Logistics Training Package* meet the industry requirements for stacking and storing timber frames and trusses.

FWPSS00046 Infield Wood Chipping Machine Operator Skill Set (Flail and Wood Chipper with Crane)

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.2. This skill set supersedes and is not equivalent to FWPSS00014 Skill set for a heavy production mobile chipper operator.

Description

This skill set provides skills and knowledge to operate an integrated or split flail and wood chipper with crane while following workplace safety, health and environmental procedures in a commercial forest operation in the harvesting and haulage sector of the forest and wood products industry.

Pathways Information

These units provide credit towards a range of qualifications from the FWP Forest and Wood Products Training Package.

Licensing/Regulatory Information

No licensing, legislative or certification requirements apply to this skill set at the time of publication.

Skill Set Requirements

- FWPCOR2203 Follow environmental care procedures
- FWPCOR2205 Follow WHS policies and procedures
- FWPHAR3203 Operate integrated or split flail and wood chipper with crane
- HLTAID011 Provide First Aid

Target Group

This skill set is for people wishing to work as infield mobile chipper operator in a commercial forest operation in the harvesting and haulage sector of the forest and wood products industry.

Suggested words for Statement of Attainment

These competencies from the FWP Forest and Wood Products Training Package meet the industry requirements for Infield Wood Chipping Machine Operator (Flail and Wood Chipper with Crane).

FWPSS00047 Infield Wood Chipping Machine Operator Skill Set (Flail and Wood Chipper Fed by a Mobile Machine)

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.2. This skill set supersedes and is not equivalent to FWPSS00014 Skill set for a heavy production mobile chipper operator.

Description

This skill set provides skills and knowledge to operate a split flail and wood chipper fed by mobile machine while following workplace safety, health and environmental procedures in a commercial forest operation in the harvesting and haulage sector of the forest and wood products industry.

Pathways Information

These units provide credit towards a range of qualifications from the FWP Forest and Wood Products Training Package.

Licensing/Regulatory Information

No licensing, legislative or certification requirements apply to this skill set at the time of publication.

Skill Set Requirements

- FWPCOR2203 Follow environmental care procedures
- FWPCOR2205 Follow WHS policies and procedures
- FWP HAR3204 Operate split flail and wood chipper fed by mobile machine
- HLTAID011 Provide First Aid

Target Group

This skill set is for people wishing to work as infield mobile chipper operator in a commercial forest operation in the harvesting and haulage sector of the forest and wood products industry.

Suggested words for Statement of Attainment

These competencies from the FWP Forest and Wood Products Training Package meet the industry requirements for Infield Wood Chipping Machine Operator (Flail and Wood Chipper Fed by a Mobile Machine).

FWPSS00048 Mechanical Processor Operator Skill Set

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0. It supersedes and is equivalent to FWPSS00016 Skill set for a mechanical processor operator.

Description

This skill set provides the skills and knowledge required to operate a mechanical processor in a commercial forest harvesting environment while applying workplace safety and environmental procedures.

Pathways Information

These units of competency provide credit towards *FWP30121 Certificate III in Forest Operations* from the FWP Forest and Wood Products Training Package.

Licensing/Regulatory Information

No licensing, legislative or certification requirements apply to this skill set at the time of publication.

Skill Set Requirements

- FWPCOR2209 Follow environmental protection procedures in forest and wood products operations
- FWPCOR2210 Follow workplace health and safety policies and procedures in forest and wood products operations
- FWPHAR3234 Conduct mechanical processor operations

Target Group

This skill set is for people wishing to work as a mechanical processor operator in commercial forest operations.

Suggested words for Statement of Attainment

These competencies from the FWP Forest and Wood Products Training Package meet the industry requirements for operating a mechanical processor in a commercial forest harvesting environment.

FWPSS00049 Native Forest Operator Skill Set

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0. This skill set supersedes and is equivalent to FWPSS00017 Skill set for a native forest operator.

Description

This skill set provides the skills and knowledge required to comply with soil, water, biodiversity and cultural heritage protection requirements and apply silviculture methods in a commercial native forest operation. It also provides the skills and knowledge to follow workplace safety and environmental procedures.

Pathways Information

These units of competency provide credit towards *FWP30121 Certificate III in Forest Operations* from the FWP Forest and Wood Products Training Package.

Licensing/Regulatory Information

No licensing, legislative or certification requirements apply to this skill set at the time of publication.

Skill Set Requirements

- FWPCOR2209 Follow environmental protection procedures in forest and wood products operations
- FWPCOR2210 Follow workplace health and safety policies and procedures in forest and wood products operations
- FWPCOT3313 Apply biodiversity protection principles
- FWPCOT3314 Comply with soil and water protection
- FWPCOT3324 Apply cultural heritage protection requirements in forest operations
- FWPSIL3001 Apply sustainable silviculture treatments

Target Group

This skill set is for people wishing to work as a forestry or harvesting technical officer in commercial native forest operations.

Suggested words for Statement of Attainment

These competencies from the FWP Forest and Wood Products Training Package meet the industry requirements for native forest operators.

FWPSS00050 Plantation Forest Operator Skill Set

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0. This skill set supersedes and is equivalent to FWPSS00018 Skill set for a plantation forest operator.

Description

This skill set provides that skills and knowledge required to comply with soil, water and cultural heritage protection requirements in a commercial plantation forest operation. It also provides the skills and knowledge to follow workplace safety and environmental procedures.

Pathways Information

These units of competency provide credit towards *FWP30121 Certificate III in Forest Operations* from the FWP Forest and Wood Products Training Package.

Licensing/Regulatory Information

No licensing, legislative or certification requirements apply to this skill set at the time of publication.

Skill Set Requirements

- FWPCOR2209 Follow environmental protection procedures in forest and wood products operations
- FWPCOR2210 Follow workplace health and safety policies and procedures in forest and wood products operations
- FWPCOT3314 Comply with soil and water protection
- FWPCOT3324 Apply cultural heritage protection requirements in forest operations

Target Group

This skill set is for people wishing to work as a forestry or harvesting technical officer in a commercial plantation forest operation.

Suggested words for Statement of Attainment

These competencies from the FWP Forest and Wood Products Training Package meet the industry requirements for plantation forest operators.

FWPSS00051 Fire Salvage Operator Skill Set

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0. This skill set supersedes and is equivalent to FWPSS00022 Skill set for fire salvage operations.

Description

This skill set provides the skills and knowledge to undertake fire salvage operations while applying workplace safety and environmental requirements.

Pathways Information

These units of competency provide credit towards *FWP30121 Certificate III in Forest Operations* from the FWP Forest and Wood Products Training Package.

Licensing/Regulatory Information

No licensing, legislative or certification requirements apply to this skill set at the time of publication.

Skill Set Requirements

- FWPCOR2209 Follow environmental protection procedures in forest and wood products operations
- FWPCOR2210 Follow workplace health and safety policies and procedures in forest and wood products operations
- FWPCOT3311 Use environmental care procedures to undertake fire salvage operations

Target Group

This skill set is for people wishing to work as a forestry or harvesting technical officer in commercial forest operations.

Suggested words for Statement of Attainment

These competencies from the FWP Forest and Wood Products Training Package meet the industry requirements for fire salvage operations.

FWPSS00052 Off Road Four Wheel Drive Operator Skill Set

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0. It supersedes and is equivalent to FWPSS00023 Skill set for off road four wheel drive operations.

Description

This skill set provides the skills and knowledge required to safely operate a four wheel drive vehicle on unsealed terrain types within the forest industry.

Pathways Information

These units of competency provide credit towards *FWP30121 Certificate III in Forest Operations* from the FWP Forest and Wood Products Training Package.

Licensing/Regulatory Information

Licensing requirements apply to this skill set at the time of publication. Users are advised to check with the relevant regulatory authority.

Skill Set Requirements

- FWPCOT2265 Navigate in forest areas
- FWPCOT3325 Operate four wheel drive vehicle on unsealed roads
- FWPCOT3326 Recover four wheel drive vehicle
- FWPCOT3328 Operate four wheel drive vehicle in a towing situation
- FWPCOT3329 Perform complex four wheel drive operations

Target Group

This skill set is for people wishing to operate a four wheel drive vehicle on unsealed terrain within the forest industry.

Suggested words for Statement of Attainment

These competencies from the FWP Forest and Wood Products Training Package meet the industry requirements for operating a four wheel drive vehicle on unsealed terrain.

FWPSS00053 Soil and Water Protection (Roading) Skill Set

Modification History

Release	Comments
Release 2	This version released with FWP Forest and Wood Products Training Package Version 7.0. This skill set supersedes and is equivalent to FWPSS00024 Skill set for soil and water protection (roading).

Description

This skill set provides the skills and knowledge required to implement soil and water protection procedures in a forest roading operation while applying workplace health and safety procedures.

Pathways Information

These units of competency provide credit towards *FWP30121 Certificate III in Forest Operations* from the FWP Forest and Wood Products Training Package.

Licensing/Regulatory Information

No licensing, legislative or certification requirements apply to this skill set at the time of publication.

Skill Set Requirements

- AHCSAW304 Implement erosion and sediment control measures
- FWPCOR2210 Follow workplace health and safety policies and procedures in forest and wood products operations
- FWPCOT3314 Comply with soil and water protection

Target Group

This skill set is for forestry workers and people wishing to work in a forest soil and water protection role within a forestry environment.

Suggested words for Statement of Attainment

These competencies from the AHC Agriculture, Horticulture and Conservation and Land Management and FWP Forest and Wood Products Training Packages meet the industry requirements for soil and water protection in a forest roading operation.

FWPSS00054 Log Truck Driver Skill Set

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0. This skill set supersedes and is equivalent to FWPSS00026 Skill set for a forestry log truck driver.

Description

This skill set provides the skills and knowledge required to transport forestry logs using trucks while applying workplace safety and environmental procedures.

Pathways Information

These units of competency provide credit towards *FWP30121 Certificate III in Forest Operations* from the FWP Forest and Wood Products Training Package.

Licensing/Regulatory Information

Licensing requirements apply to this skill set at the time of publication. Users are advised to check with the relevant regulatory authority.

Skill Set Requirements

- FWPCOR2209 Follow environmental protection procedures in forest and wood products operations
- FWPCOR2210 Follow workplace health and safety policies and procedures in forest and wood products operations
- FWPCOT3315 Transport forestry logs using trucks

Target Group

This skill set is for people wishing to work as a log truck driver in commercial forest operations.

Suggested words for Statement of Attainment

These competencies from the FWP Forest and Wood Products Training Package meet the industry requirements for transporting forestry logs by truck.

FWPSS00055 Forestry Produce Truck Driver Skill Set

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0. This skill set supersedes and is equivalent to FWPSS00027 Skill set for a forestry produce truck driver.

Description

This skill set provides the skills and knowledge required to transport forestry produce using trucks while applying workplace safety and environmental procedures.

Pathways Information

These units of competency provide credit towards *FWP30121 Certificate III in Forest Operations* from the FWP Forest and Wood Products Training Package.

Licensing/Regulatory Information

Licensing requirements apply to this skill set. Users are advised to check with the relevant regulatory authority.

Skill Set Requirements

- FWPCOR2209 Follow environmental protection procedures in forest and wood products operations
- FWPCOR2210 Follow workplace health and safety policies and procedures in forest and wood products operations
- FWPCOT3316 Transport forestry produce using trucks

Target Group

This skill set is for people wishing to work as a truck driver transporting forestry produce (apart from forestry logs) in commercial forest operations.

Suggested words for Statement of Attainment

These competencies from the FWP Forest and Wood Products Training Package meet the industry requirements for transporting forestry produce by truck.

FWPSS00056 Crawler Tractor Operator Skill Set

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0. It supersedes and is equivalent to FWPSS00032 Skill set for a crawler tractor operator.

Description

This skill set provides the skills and knowledge required to operate a crawler tractor in a commercial forest harvesting environment while applying workplace safe, health and environmental procedures.

Pathways Information

These units of competency provide credit towards *FWP30121 Certificate III in Forest Operations* from the FWP Forest and Wood Products Training Package.

Licensing/Regulatory Information

No licensing, legislative or certification requirements apply to this skill set at the time of publication.

Skill Set Requirements

- FWPCOR2209 Follow environmental protection procedures in forest and wood products operations
- FWPCOR2210 Follow workplace health and safety policies and procedures in forest and wood products operations
- FWPHAR3224 Operate crawler tractor

Target Group

This skill set is for people wishing to work as a crawler tractor operator in commercial forest operations.

Suggested words for Statement of Attainment

These competencies from the FWP Forest and Wood Products Training Package meet the industry requirements for operating a crawler tractor in a commercial forest harvesting environment.

FWPSS00057 Feller Buncher Operator Skill Set

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0. It supersedes and is equivalent to FWPSS00033 Skill set for a feller buncher operator.

Description

This skill set provides the skills and knowledge required to operate a feller buncher in a commercial forest harvesting environment while applying workplace safety and environmental procedures.

Pathways Information

These units of competency provide credit towards *FWP30121 Certificate III in Forest Operations* from the FWP Forest and Wood Products Training Package.

Licensing/Regulatory Information

No licensing, legislative or certification requirements apply to this skill set at the time of publication.

Skill Set Requirements

- FWPCOR2209 Follow environmental protection procedures in forest and wood products operations
- FWPCOR2210 Follow workplace health and safety policies and procedures in forest and wood products operations
- FWPHAR3226 Operate feller buncher

Target Group

This skill set is for people wishing to work as a feller buncher operator in commercial forest operations.

Suggested words for Statement of Attainment

These competencies from the FWP Forest and Wood Products Training Package meet the industry requirements for operating a feller buncher in a commercial forest harvesting environment.

FWPSS00058 Forwarder Operator Skill Set

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0. It supersedes and is equivalent to FWPSS00034 Skill set for a forwarder operator.

Description

This skill set provides the skills and knowledge required to operate a forwarder in a commercial forest harvesting environment while applying workplace safety and environmental procedures.

Pathways Information

These units of competency provide credit towards *FWP30121 Certificate III in Forest Operations* from the FWP Forest and Wood Products Training Package.

Licensing/Regulatory Information

No licensing, legislative or certification requirements apply to this skill set at the time of publication.

Skill Set Requirements

- FWPCOR2209 Follow environmental protection procedures in forest and wood products operations
- FWPCOR2210 Follow workplace health and safety policies and procedures in forest and wood products operations
- FWPHAR3227 Operate forwarder

Target Group

This skill set is for people wishing to work as a forwarder operator in commercial forest operations.

Suggested words for Statement of Attainment

These competencies from the FWP Forest and Wood Products Training Package meet the industry requirements for operating a forwarder in a commercial forest harvesting environment.

FWPSS00059 Loader Operator Skill Set

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0. It supersedes and is equivalent to FWPSS00035 Skill set for a loader operator.

Description

This skill set provides the skills and knowledge required to operate a loader in a commercial forest harvesting environment while applying workplace safety and environmental procedures.

Pathways Information

These units of competency provide credit towards *FWP30121 Certificate III in Forest Operations* from the FWP Forest and Wood Products Training Package.

Licensing/Regulatory Information

No licensing, legislative or certification requirements apply to this skill set at the time of publication.

Skill Set Requirements

- FWPCOR2209 Follow environmental protection procedures in forest and wood products operations
- FWPCOR2210 Follow workplace health and safety policies and procedures in forest and wood products operations
- FWPHAR3228 Operate loader

Target Group

This skill set is for people wishing to work as a loader operator in commercial forest operations.

Suggested words for Statement of Attainment

These competencies from the FWP Forest and Wood Products Training Package meet the industry requirements for operating a loader in a commercial forest harvesting environment.

FWPSS00060 Single Grip Harvester Operator Skill Set

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0. It supersedes and is equivalent to FWPSS00036 Skill set for a single grip harvester operator.

Description

This skill set provides the skills and knowledge required to operate a single grip harvester in a commercial forest harvesting environment while applying workplace safety and environmental procedures.

Pathways Information

These units of competency provide credit towards *FWP30121 Certificate III in Forest Operations* from the FWP Forest and Wood Products Training Package.

Licensing/Regulatory Information

No licensing, legislative or certification requirements apply to this skill set at the time of publication.

Skill Set Requirements

- FWPCOR2209 Follow environmental protection procedures in forest and wood products operations
- FWPCOR2210 Follow workplace health and safety policies and procedures in forest and wood products operations
- FWPHAR3229 Operate single grip harvester

Target Group

This skill set is for people wishing to work as a single grip harvester operator in commercial forest operations.

Suggested words for Statement of Attainment

These competencies from the FWP Forest and Wood Products Training Package meet the industry requirements for operating a single grip harvester in a commercial forest harvesting environment.

FWPSS00061 Skidder Operator Skill Set

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0. It supersedes and is equivalent to FWPSS00037 Skill set for a single grip harvester operator.

Description

This skill set provides the skills and knowledge required to operate a skidder in a commercial forest harvesting environment while applying workplace safety and environmental procedures.

Pathways Information

These units of competency provide credit towards *FWP30121 Certificate III in Forest Operations* from the FWP Forest and Wood Products Training Package.

Licensing/Regulatory Information

No licensing, legislative or certification requirements apply to this skill set at the time of publication.

Skill Set Requirements

- FWPCOR2209 Follow environmental protection procedures in forest and wood products operations
- FWPCOR2210 Follow workplace health and safety policies and procedures in forest and wood products operations
- FWPHAR3230 Operate skidder

Target Group

This skill set is for people wishing to work as a skidder operator in commercial forest operations.

Suggested words for Statement of Attainment

These competencies from the FWP Forest and Wood Products Training Package meet the industry requirements for operating a skidder in a commercial forest harvesting environment.

FWPSS00062 Excavator with Log Grapple Operator Skill Set

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0. It supersedes and is equivalent to FWPSS00038 Skill set for a single grip harvester operator.

Description

This skill set provides the skills and knowledge required to operate an excavator with log grapple in a commercial forest harvesting environment while applying workplace safety and environmental procedures.

Pathways Information

These units of competency provide credit towards *FWP30121 Certificate III in Forest Operations* from the FWP Forest and Wood Products Training Package.

Licensing/Regulatory Information

No licensing, legislative or certification requirements apply to this skill set at the time of publication.

Skill Set Requirements

- FWPCOR2209 Follow environmental protection procedures in forest and wood products operations
- FWPCOR2210 Follow workplace health and safety policies and procedures in forest and wood products operations
- FWPHAR3225 Operate excavator with log grapple

Target Group

This skill set is for people wishing to work as an excavator with log grapple operator in commercial forest operations.

Suggested words for Statement of Attainment

These competencies from the FWP Forest and Wood Products Training Package meet the industry requirements for operating an excavator with log grapple in a commercial forest harvesting environment.

FWPSS00063 Entry into Forestry Roles Skill Set

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Description

This skill set provides the skills and knowledge in basic specialised and non-specialised forest and wood products industry operations and features, as well as health and safety and communication, preparing individuals for starting a career in forestry.

Pathways Information

These units of competency provide credit towards *FWP20121 Certificate II in Forest Operations* from the FWP Forest and Wood Products Training Package.

Licensing/Regulatory Information

No licensing, legislative or certification requirements apply to this skill set at the time of publication.

Skill Set Requirements

- FWPCOR2208 Communicate and interact effectively in the forest and wood products industry
- FWPCOR2210 Follow workplace health and safety policies and procedures in forest and wood products operations
- FWPCOR2211 Develop knowledge of the forest and wood products industry
- FWPHAR2210 Operate a forest machine simulator in a virtual environment

Target Group

This skill set is for people who are seeking a pathway into the forestry industry and require upskilling in basic forestry knowledge and technical skills.

Suggested words for Statement of Attainment

These competencies from the FWP Forest and Wood Products Training Package meet industry requirements for gaining basic forestry knowledge and technical skills.

FWPSS00064 Plantation Establishment Worker Skill Set

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Description

This skill set provides the skills and knowledge required to plant trees by hand effectively as part of a commercial forest operation while applying workplace health and safety requirements.

Pathways Information

These units of competency provide credit towards *FWP20121 Certificate II in Forest Operations* from the FWP Forest and Wood Products Training Package.

Licensing/Regulatory Information

No licensing, legislative or certification requirements apply to this skill set at the time of publication.

Skill Set Requirements

- FWPCOR2206 Work effectively in the forest and wood products industry
- FWPCOR2210 Follow workplace health and safety policies and procedures in forest and wood products operations
- FWPSIL2002 Plant trees by hand

Target Group

This skill set is for people wishing to work as a plantation establishment worker in commercial forest operations.

Suggested words for Statement of Attainment

These competencies from the FWP Forest and Wood Products Training Package meet the industry requirements for plantation establishment workers.

FWPSS00065 Silviculture Worker Skill Set

Modification History

Release	Comments
Release 2	This version released with FWP Forest and Wood Products Training Package Version 8.0.
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Description

This skill set provides the skills and knowledge required to trim and cut felled trees and branches as part of silviculture operations while applying workplace safety and environmental requirements and operate a four wheel drive vehicle on forestry terrain.

Pathways Information

These units of competency provide credit towards *FWP30122 Certificate III in Forest Operations* from the FWP Forest and Wood Products Training Package.

Licensing/Regulatory Information

No licensing, legislative or certification requirements apply to this skill set at the time of publication.

Skill Set Requirements

- FWPCOR2209 Follow environmental protection procedures in forest and wood products operations
- FWPCOR2210 Follow workplace health and safety policies and procedures in forest and wood products operations
- FWPCOT2273 Trim and cut felled trees
- FWPCOT3301 Trim trees using a pole saw
- FWPCOT3325 Operate four wheel drive vehicle on unsealed roads
- FWPCOT3326 Recover four wheel drive vehicle

Target Group

This skill set is for people wishing to work as a silviculture worker in commercial forest operations.

Suggested words for Statement of Attainment

These competencies from the FWP Forest and Wood Products Training Package meet the industry requirements for silviculture workers.

FWPSS00066 Excavator Operator Skill Set

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Description

This skill set provides the skills and knowledge required to operate an excavator for site preparation and other civil construction operations as part of commercial forest operations while applying workplace safety and environmental protection procedures.

Pathways Information

These units of competency provide credit towards *FWP30121 Certificate III in Forest Operations* from the FWP Forest and Wood Products Training Package.

Licensing/Regulatory Information

No licensing, legislative or certification requirements apply to this skill set at the time of publication.

Skill Set Requirements

- FWPCOR2209 Follow environmental protection procedures in forest and wood products operations
- FWPCOR2210 Follow workplace health and safety policies and procedures in forest and wood products operations
- RIIMPO320F Conduct civil construction excavator operations

Target Group

This skill set is for people wishing to work as an excavator operator in commercial forest operations.

Suggested words for Statement of Attainment

These competencies from the FWP Forest and Wood Products and RII Resources and Infrastructure Industry Training Packages meet the industry requirements for operating an excavator in a commercial forest environment.

FWPSS00067 Skid Steer Loader Operator (Forestry) Skill Set

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

Description

This skill set provides the skills and knowledge required to operate a skid steer loader in a commercial forest environment while applying workplace safety and environmental protection procedures.

Pathways Information

These units of competency provide credit towards *FWP30121 Certificate III in Forest Operations* from the FWP Forest and Wood Products Training Package.

Licensing/Regulatory Information

No licensing, legislative or certification requirements apply to this skill set at the time of publication.

Skill Set Requirements

- FWPCOR2209 Follow environmental protection procedures in forest and wood products operations
- FWPCOR2210 Follow workplace health and safety policies and procedures in forest and wood products operations
- RIIMPO318F Conduct civil construction skid steer loader operations

Target Group

This skill set is for people wishing to work as a skid steer loader operator in commercial forest operations.

Suggested words for Statement of Attainment

These competencies from the FWP Forest and Wood Products and RII Resources and Infrastructure Industry Training Packages meet the industry requirements for operating a skid steer loader in a commercial forest environment.